2002

Report of the

Commissioner of the Environment and Sustainable Development

to the House of Commons

The Commissioner's Perspective—2002

The Decade After Rio

Office of the Auditor General of Canada

The 2002 Report of the Commissioner of the Environment and Sustainable Development comprises 6 chapters and The Commissioner's Perspective — 2002. The main table of contents is found at the end of this publication.

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Commissioner of the Environment and Sustainable Development of Canada
Commissaire à l'environnement et au développement durable du Canada
Office of the Auditor General of Canada • Bureau du vérificateur général du Canada

To the Honourable the Speaker of the House of Commons:

On behalf of the Auditor General of Canada, I have the honour to transmit herewith my Report to the House of Commons for the year 2002, to be laid before the House in accordance with the provisions of section 23(3) of the *Auditor General Act*.

Johanne Gélinas

Johanne Gélinas
Commissioner of the Environment
and Sustainable Development

OTTAWA, 22 October 2002

To the reader:

I welcome your comments and suggestions on this Report and other issues related to the environment and sustainable development. I can be reached at the following:

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Foreword

Report of the Commissioner of the Environment and Sustainable Development—2002

Foreword

As Commissioner of the Environment and Sustainable Development, I am pleased to present the 2002 Report for tabling in the House of Commons.

This Foreword is followed by The Commissioner's Perspective — 2002, The Decade After Rio, and the Main Points from each chapter. The Report contains six chapters:

1 Toxic Substances Revisited
2 The Legacy of Federal Contaminated Sites
3 Abandoned Mines in the North
4 Invasive Species
5 Sustainable Development Strategies
6 Exercising Your Right to Know: The Environmental Petitions Process

The Commissioner's Perspective—2002

The Decade After Rio

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The Commissioner's Perspective—2002

The Decade After Rio

Looking back to Rio

Johanne Gélinas
Commissioner of the Environment and Sustainable Development

Ten years ago Canada committed to the principles of sustainable development

1. The World Summit on Sustainable Development held in Johannesburg, South Africa in August 2002 marked a special 30-year anniversary. Governments around the world have been gathering and working together to improve the condition of our planet and its people since the 1972 Conference on the Human Environment held in Stockholm.

2. Canada enthusiastically embraced the notion of sustainable development 10 years ago at the United Nations Conference on Environment and Development, held in Rio de Janeiro, Brazil. In Rio, Canada and more than 175 other nations committed to a comprehensive plan of action for socially, economically, and environmentally sustainable development—a plan known as Agenda 21. The plan was supported by the Rio Declaration on Environment and Development—27 guiding principles that proclaim, among other things, that

- environmental protection shall constitute an integral part of development;
- states shall conserve, protect, and restore the health and integrity of the Earth's ecosystem;
- they shall enact effective environmental legislation;
- the precautionary approach shall be widely applied;
- states should endeavour to promote the internalization of environmental costs and the use of economic instruments; and
- national environmental impact assessment shall be undertaken.

3. At the same time, Canada also signed two conventions on issues of particular concern. The United Nations Framework Convention on Climate Change seeks to reduce emissions of greenhouse gases and their harmful impact on the planet's climate system. The Convention on Biological Diversity aims to conserve the diversity of the planet's biological resources, make their use more sustainable, and share the benefits fairly and equitably.

4. The three documents are among more than 200 binding international agreements and non-binding instruments that Canada has signed over the years to protect the environment and advance sustainable development.

The federal government pledged to turn talk into action

5. Three years after Rio the federal government—in its *Guide to Green Government*—committed to turning talk into action and integrating sustainable development "into the way government defines its business and makes its decisions." The guide identified [illegible] as a common starting point for turning the talk of sustainable development into action. It also set out some [illegible] toward those objectives.

Five objectives of sustainable development

- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

Key institutions were put in place

6. Canada saw a significant institutional change in 1995: Parliament amended the *Auditor General Act* to require that each department of the federal government prepare a sustainable development strategy. The strategy would outline the department's concrete goals and action plans for integrating sustainable development into its policies, programs, and operations; those goals and plans would be the benchmarks against which the department would measure its progress.

7. The amendments to the *Auditor General Act* also created the position of Commissioner of the Environment and Sustainable Development. The Commissioner would report to Parliament annually on issues important to the environment and other aspects of sustainable development and, in particular, would monitor and report on departments' progress toward their sustainable development goals.

The Auditor General and I have investigated many issues

8. During this first post-Rio decade, we have conducted more than 60 audits of activities the federal government carries out to protect the environment and promote sustainable development (see Appendix A). We have reported on a variety of issues—focussing mainly on the environmental principles noted in paragraph 2—and have monitored the federal government's progress toward its sustainable development objectives, which include

- meeting international obligations, such as protecting the ozone layer and reducing greenhouse gas emissions;
- protecting the health of Canadians and ecosystems by managing toxic substances, conserving biological diversity, and protecting air quality; and
- sustaining our natural resources, such as fisheries and water.

Concrete steps toward sustainable development

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- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

What is the federal government's track record?

9. What is the federal government's track record of fulfilling its sustainable development promises? In this chapter, I look at that record—the accomplishments and the disappointments—in the key areas we have examined in the ten years since Rio. I highlight the main findings and messages of our work this year. And I discuss the impact of the sustainable development strategies and the importance of their role. My conclusion: The federal government is not investing enough—enough of its human and financial resources; its legislative, regulatory, and economic powers; or its political leadership—to fulfil its sustainable development commitments. The result is a growing environmental, health, and financial burden that our children will have to bear.

The past ten years: Key federal commitments are not being met

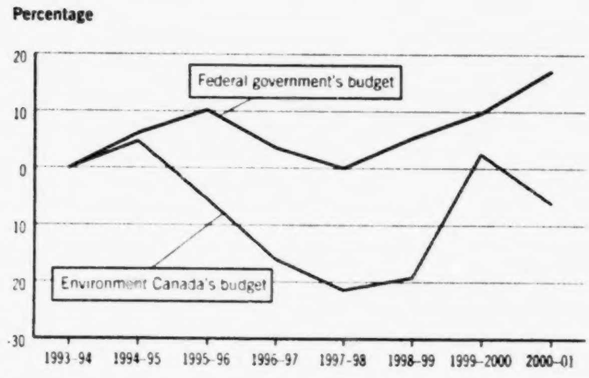
10. During all of our audits, we found dedicated people throughout the federal government working hard to protect the quality of our environment and to promote sustainable development in their departments and organizations. We found some significant accomplishments. We also found many disappointments.

More investment is not a call for more taxation

Isn't it time for the government to invest in sustainable development by funding its commitments?

Key federal departments have suffered cuts in funding—especially Environment Canada, whose budget dropped by 6 percent while the government's grew by 17 percent.

Government's cut in funding for Environment Canada



Source: *Public Accounts of Canada*

By reducing funding, the government reduces its capacity to meet the sustainable development objectives it has set for itself.

But a call for more federal funding in support of the government's sustainable development commitments need not be a call for more taxation. There are other mechanisms at the government's disposal.

One of the principles of sustainable development agreed to at Rio is that governments build environmental costs into their decisions and use economic instruments to encourage more sustainable behaviour. The Organisation for Economic Co-operation and Development in particular has noted that Canada could make greater use of these tools.

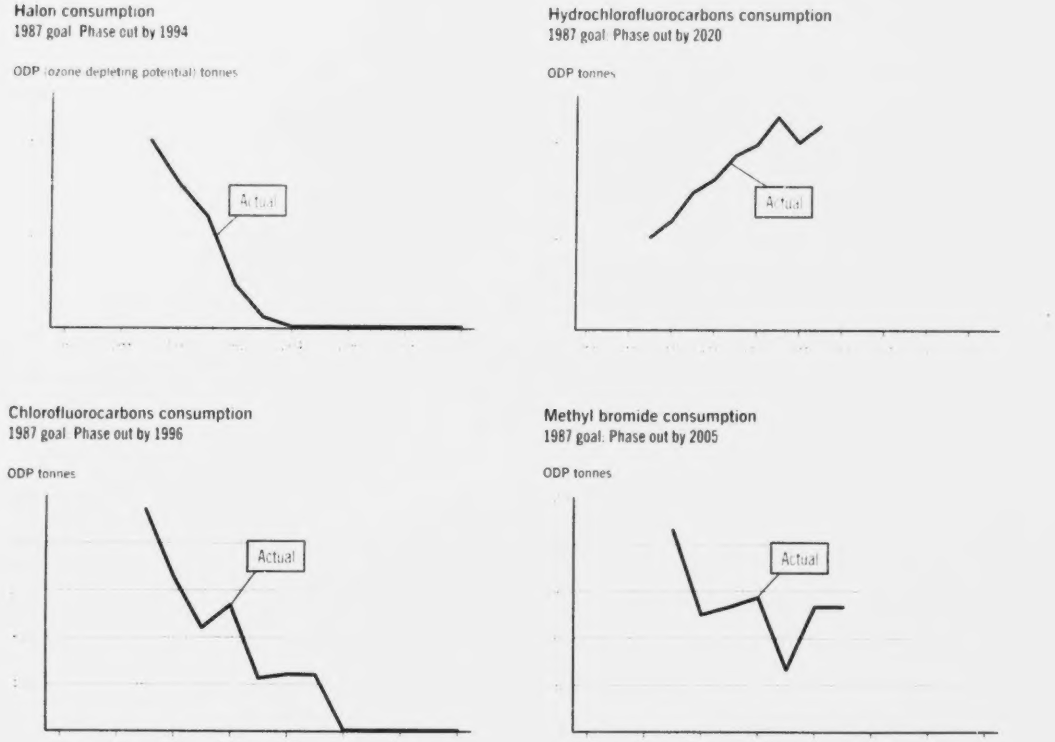
Adopting the "polluter pays" principle is another approach that can help fund sustainable development and promote equity—both now and for future generations—without adding to the tax burden of Canadians.

Protecting the stratospheric ozone layer: A major accomplishment

11. Scientists became concerned in 1974 about the impact of certain chemicals on the stratospheric ozone layer. Eleven years later, evidence showed conclusively that chlorofluorocarbons (CFCs) and other substances had created a "hole" in the ozone layer over the Antarctic. In 1987, through the Montreal Protocol on Substances that Deplete the Ozone Layer, signatory countries committed to control these substances and ultimately eliminate them.

12. Canada played a leading role in the global effort to protect the ozone layer. The federal government showed that it could mobilize its resources to promote development that is more sustainable. Canada has met or exceeded its phase-out commitments under the Montreal Protocol every year (Exhibit 1). While trends over the last 15 years are generally positive, all countries must continue to meet their targets if the ozone layer is to fully recover, as predicted, some 50 years from now.

Exhibit 1 **Protecting the strastospheric ozone layer**



Halon consumption
1987 goal: Phase out by 1994

Hydrochlorofluorocarbons consumption
1987 goal: Phase out by 2020

Chlorofluorocarbons consumption
1987 goal: Phase out by 1996

Methyl bromide consumption
1987 goal: Phase out by 2005

Source: UNEP Data Report: Production and Consumption of Ozone Depleting Substances, 1986–1998, and Environment Canada

Protecting air quality: Some successes, but further action needed

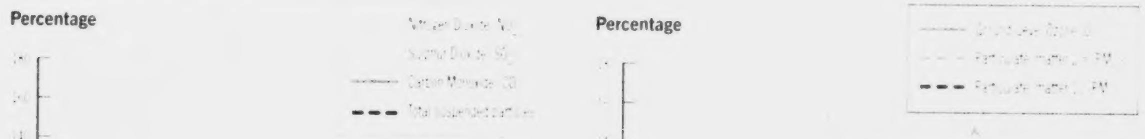
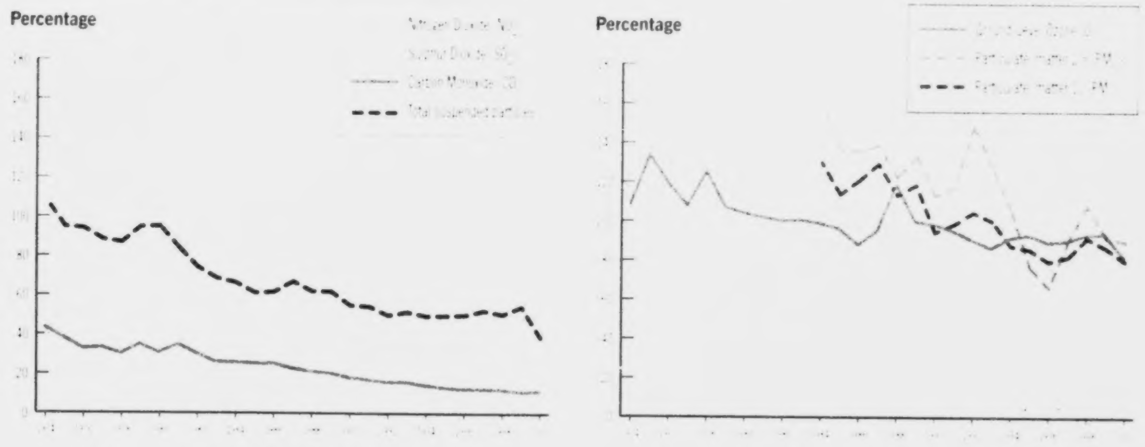
13. Although smog is defined by its main components—ozone and particulate matter—the pollutants that contribute to the formation of smog also include nitrogen oxides, volatile organic compounds, sulphur dioxide, and carbon monoxide. Continuing trends it began in the 1970s, Canada has achieved steady reductions over the past decade in emissions of sulphur dioxide and nitrogen dioxide—two major contributors to air quality problems. Over the same period, amounts of total suspended particles have also declined (Exhibit 2).

14. However, ground-level ozone and particulate matter—including PM_{10} and $PM_{2.5}$, responsible for causing the greatest harm to human health—have remained at high levels; research has been unable to identify safe levels. Environment Canada has reported that yearly average concentrations of $PM_{2.5}$ have risen recently and that some Canadian cities continue to record daily levels high enough to pose a health risk. More action is needed to protect air quality, and the federal government must take the lead.

[illegible]

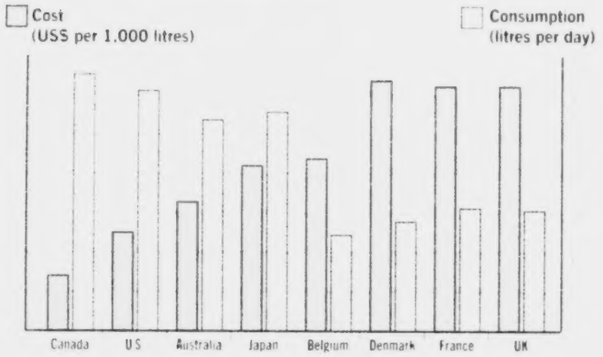
15. The federal government has invested over $300 million, along with the provinces and municipalities, to improve municipal wastewater treatment in Canada. The result is that the number of municipal residents not served by wastewater treatment is one in thirty; in 1989 it was one in five. However, effluents from municipalities remain a serious source of water contamination and environmental and health concerns, while a national strategy for treating them has yet to be developed. Added to this is the problem of safely managing manure from intensive livestock operations—a problem that has been getting worse.

Exhibit 2 **Levels of harmful substances in Canada's air**

16. Concerns about water include not only its quality but also its quantity. Canada is the guardian of one of the largest supplies of fresh water in the world. Yet Canadians continue to consume water at a rate 65 percent higher than the average of other major industrialized nations (Exhibit 3). Our water prices are among the lowest in the world, and our demand is increasing. Since its release in 1987, the federal water policy has not been effective at reducing water consumption through either demand management or realistic pricing. It is time for the federal government to fulfil its commitment and start building the true cost into the pricing of this key environmental resource.

Exhibit 3 **The cost and consumption of water**



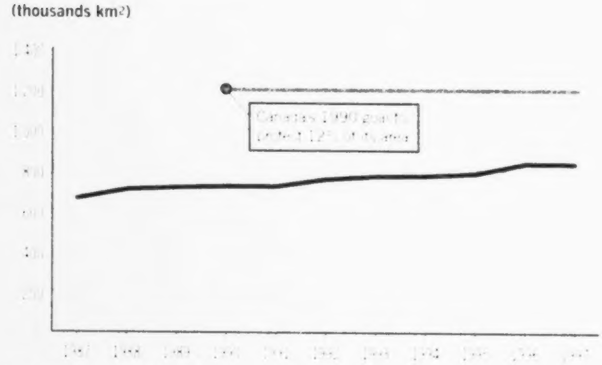
Source: Organisation for Economic Co-operation and Development. All data are from 1994 to 1999 except [illegible]

Conserving biological diversity: Species and spaces still at risk

17. The Convention on Biological Diversity was one of the major accomplishments of the Rio Earth Summit. Canada's federal government identified the protection of representative areas and the conservation of biological diversity as concrete steps toward sustainable development. Looking at the updates and reassessments in the past five years of species in Canada listed as at risk, we see that the status of 72 percent of them has not changed: they are still at risk. Of the remaining 28 percent, twice as many species have declined as have improved. And while one of the Rio Declaration principles proclaims that states shall enact effective environmental legislation, Canada's federal legislation for species at risk was introduced five years ago and was only recently sent from the House of Commons to the Senate. As Parliament was prorogued this September, the future of the legislation is unknown.

18. Conserving biodiversity includes not only protecting species of plants, animals, and other creatures but also protecting the spaces where they live. In 1992, Canada committed to creating protected areas of representative ecosystems equal to 12 percent of the country's total territory. From 1992 to 1997, it increased its square kilometres of protected area by about 17 percent so that about 9 percent of the country was protected area by 1998—the latest year for which data are available (Exhibit 4). Unfortunately, about a third of the land in Canada's ecoregions still has virtually no protection. More than three quarters of Canada's national parks—30 percent of the total area protected—are reportedly suffering significant to severe ecological stress.

Exhibit 4 **Protecting ecosystems**



Source: Environment Canada

Sustaining our fisheries: Vital information unavailable and caution still needed

19. It is not an easy task to construct a picture of the state of Canada's coastal fisheries, given the complex nature of fish stocks and fisheries and the difficulty of getting reliable information. Adding to the challenge are the dramatic changes to the fisheries—the 1992 moratorium on fishing northern cod stocks in the Atlantic, followed in 1995 by a dramatic drop in the commercial catch of Pacific salmon.

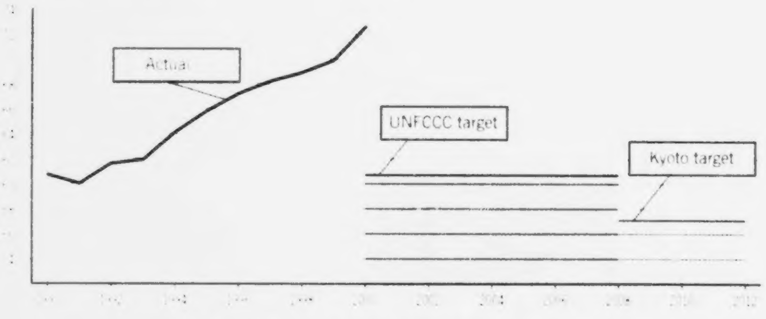
20. As the Auditor General has noted, during the 1990s Fisheries and Oceans Canada "had limited knowledge of stocks and habitat to determine conservation requirements and catch limits, and it failed to take precautions when its own scientific advice was warning of stock declines. This led the Department to partially or completely close some fisheries." The need for better information about the state of our fish resources and the need for caution in their management were reinforced recently by the news that northern cod have not rebounded significantly, even after the 10-year moratorium on commercial fishing.

Reducing greenhouse gas emissions: A widening gap

21. The United Nations Framework Convention on Climate Change, a key result of the Rio Earth Summit in 1992, set as an interim objective to aim to stabilize greenhouse gas emissions at 1990 levels by 2000. In the 1997 Kyoto Protocol to the Framework Convention, the federal government agreed to a Canadian target of 6 percent below 1990 emission levels by 2008 to 2012 (Exhibit 5). While the federal government still has not ratified the Kyoto target, emission levels continue to rise—to almost 20 percent higher in 2000 than in 1990, up sharply from 15 percent in 1999.

Exhibit 5 **Greenhouse gas emissions in Canada**

(megatonnes of CO_2 equivalent units)



UNFCCC – United Nations Framework Convention on Climate Change

Source: Environment Canada

Applying sound management: Recurring problems inhibiting progress

22. Besides monitoring the progress of the federal government on its key commitments, we have looked in the past decade at whether it applies sound management practices to environmental and sustainable development issues. Our work has uncovered the following common, recurring problems:

- gaps in the information needed for effective program management and policy development;
- missing or incomplete strategies and plans for some issues and missing or fuzzy objectives, targets, and timetables in some of the strategies and plans that do exist;
- unclear or disputed roles and responsibilities, including responsibility for leading the federal action on certain issues;
- incomplete and unbalanced reporting on program performance; and
- problems of co-ordination among federal departments and between the federal government and other jurisdictions.

23. I believe that our continued reporting of these problems will help the federal government focus its resources, monitor its progress, and improve its accountability to Parliament and all Canadians to turn its sustainable development promises into actions.

24. While far from exhaustive, the list of issues we have investigated in the past 10 years includes many of the federal government's major commitments. We have noted its political leadership and regulation of ozone-depleting substances, and its financial support for improved water infrastructure. Yet we see a growing sustainable development deficit—depleted fish stocks and rising greenhouse gas emissions, health problems linked to poor air and water quality, and insufficient resources to protect biodiversity and manage toxic substances.

This year: The sustainable development deficit continues to grow

25. This year we examined four issues, three of them closely related. Our chapters on toxic substances, federal contaminated sites, and abandoned mines in the North all consider the impact of toxic chemicals on the health of Canadians and the environment. They highlight the consequences of inaction in the past and the need to manage toxic substances better in the future. Our chapter on invasive species highlights an issue with potentially devastating implications for the future. We also examined whether the sustainable development strategies of federal departments are fulfilling their roles. Overall, our findings leave me more concerned than ever about the inadequacy of the federal government's investment to protect the environment and meet its sustainable development commitments.

Managing toxic substances: Still a long way to go

26. The production, use, and release of industrial chemicals, pesticides, and their by-products in Canada can pose serious risks to the health of Canadians and to the environment. Some chemicals are associated with health problems such as cancer, decreased fertility, and neurological disorders. Other chemicals are the subject of considerable scientific debate over which ones (and in what concentrations) might be affecting us and our environment.

27. In 1999 we audited the federal government's scientific investigation of existing industrial chemicals and pesticides and its management of their use. This year we revisited the departments we had audited to assess their progress in implementing our recommendations. Although the federal government has made some progress in managing toxic substances since 1999, its ability to detect, understand, and prevent the harmful effects of toxic substances is still limited. Departments have made encouraging progress in some areas. Progress has been more limited in some essential areas, for example, measuring the presence of toxic substances in the environment and their effects; achieving the government's objective of virtually eliminating predominantly man-made releases of toxic substances that are persistent and bioaccumulative; and preparing a risk reduction policy to guide pesticide management.

28. Many of the root causes of problems we found in 1999 continue today: underresourced commitments; major gaps in scientific knowledge; and burdensome regulatory processes. None of this augurs well for the protection of our health. In my opinion, the current situation and future prospects are not environmentally, economically, or socially acceptable. The federal government must increase its efforts to address our previous recommendations and to better manage this critical issue. Otherwise, our children may have to finish the job of assessing, and certainly managing, toxic substances in use today.

The legacy of federal contaminated sites: Government fails to clean up its own back yard

29. The federal government knows it has about 3,600 contaminated sites and at least 1,500 more sites where contamination is suspected. They include harbours and ports, government laboratories, lighthouse stations, military bases and training facilities, abandoned mines in the North, and airports. The contaminants at these sites range from petroleum products to a variety of toxic substances. They can do significant damage to the quality of water, soil, and air, and they take valuable land out of productive use.

30. The federal failure to deal decisively with its contaminated sites problem has left a significant financial burden to be paid by Canadian taxpayers today and for decades to come. The costs these sites incur range from a few thousand dollars for a minor spill from a leaking gasoline storage tank to many millions of dollars for an abandoned northern mine. Spending for cleanup and management of federal contaminated sites averages about $90 million a year. We estimate that the cost of dealing with known sites under federal responsibility is in the billions of dollars.

31. The federal government does not have a full picture of risks to the environment and human health at all the sites it knows about. There are no federal laws, regulations, or policies that require it to clean up its sites, many of which could face cleanup orders in some provinces were the federal government not exempt from provincial law. Sound environmental management would see the federal government prepare a priority list of the worst sites and an action plan for their timely cleanup. It has not done this; nor has it provided long-term, stable funding to manage the problem effectively or to clean up high-risk sites. The federal government needs to develop a clear, mandatory requirement for federal organizations to clean up or manage their contaminated sites.

Abandoned mines in the North: Yesterday's mines threaten today's environment

32. Among the most worrisome federal contaminated sites are abandoned mines in the North. Mining in northern Canada has left the federal government a legacy of hundreds of thousands of tonnes of highly toxic chemicals such as arsenic and cyanide in abandoned mine sites. These chemicals are contained in structures that are deteriorating rapidly and that require regular repairs. In some cases, time is running out and there could be significant environmental damage and risk to human health if nothing is done.

33. In the past, Indian and Northern Affairs Canada did not collect sufficient financial security from mining companies operating in the North to cover the costs of the eventual cleanup and closure of mine sites. Prior to 1993, there were legislated limits on the amounts that could be collected as financial security. For some mines currently operating in the North, there is still a shortfall. Now, the Department is spending millions of dollars each year to stop pollutants from escaping these sites. This care and maintenance is a band-aid approach that does little to solve the problem in the long term. The Department estimates that the cleanup and closure of these abandoned mines will cost at least $555 million. In many cases, complete and definitive cleanup will not be possible and long-term site management will be required.

34. For two new diamond mines, Indian and Northern Affairs Canada reported that full financial security is being achieved. The Department has also made progress toward establishing a comprehensive program to deal with contaminated sites in the North, including abandoned mines. However, the full implementation of this program will depend on available human and financial resources.

Invasive species: A destructive force has met limited resistance

35. Fish, plants, insects, bacteria, viruses, and other organisms found in an area beyond their native range are alien to that area. Not all alien species are harmful. Indeed, many have been introduced intentionally into Canada for the benefits they have offered. But some, known as invasive species, can cause disease in native plants and animals or prey upon them; change local habitat, making it inhospitable to native species; or simply reproduce faster than native plants and crowd them out by inhabiting their space and eating their food. Experts have concluded that invasive species are second only to habitat destruction as a leading cause of biodiversity loss, including local extinctions of species. Studies to date indicate that they cause billions of dollars of damage to Canada's economy every year.

36. The federal government has not responded effectively to invasive species that threaten Canada's ecosystems, habitats, and other species. It has not identified the invasive species with the greatest potential to become established in Canada's ecosystems, determined the main pathways by which they arrive, or assessed the risks they pose to the environment and economy. There is no agreement among federal departments on priorities for prevention or on who will do what to respond to major risks. Ten years after the government committed to prevent their introduction or to control or eradicate them, the number of invasive species in Canada continues to grow.

37. Unlike most chemical pollutants that degrade over time, invasive species—which some scientists have termed biological pollution—have the potential to multiply, spread, and persist in the environment. Given the impacts of invaders once they have become established—the ecological and economic damage they cause, the financial cost of keeping them in check, and the possible implications of controlling them chemically—it is clear that keeping them out is the best strategy and that not investing in doing so will carry a far greater cost.

Sustainable development strategies: Central leadership is needed to drive change

38. In 1992, Canada and many other countries around the world committed to develop national strategies for sustainable development. Twenty-eight federal departments and agencies tabled their first sustainable development strategies in December 1997. In our 1998 Report, we called the strategies "less a commitment to change in order to move toward sustainable development than a restatement of the status quo."

39. This year we looked at whether the strategies fulfilled two roles we believe are essential: whether the strategies are strategic documents and whether they are effective accountability tools. We found that the strategies are used as a communications tool, a foundation for further change, and a focal point for managing sustainable development. But currently they are not the strategic documents they were meant to be, which hinders the process of change the government intended.

40. The commitments made by departments and agencies are the nuts and bolts of the strategies. They form the basis on which departments report annually on their progress toward sustainable development. We found that measuring and reporting on progress continues to be a challenge for departments. The sheer volume of commitments in the strategies makes reporting an onerous task. Moreover, in departmental performance reports the quality of reporting on sustainable development varies widely, with weaknesses persisting from year to year.

41. To make sustainable development real, the strategies need to convey a vision of a sustainable future, a small number of key priorities, and specific objectives for the next 10 years. And they need to focus on what departments will do differently to achieve sustainable development. This will take leadership and commitment by all federal ministers.

Looking forward from Johannesburg

Canada has reaffirmed its commitments

42. I attended the World Summit on Sustainable Development this past August to witness first-hand how Canada and others would prepare for the second decade after Rio. Countries from around the world met with high expectations to agree on a concrete plan, timetables, and targets for implementing the commitments made at Rio and since then. At the Summit, countries adopted a new Plan of Implementation for sustainable development. Through this plan, Canada has "strongly re-affirmed its commitment to the Rio principles [and] the full implementation of Agenda 21." It has committed "to achieving internationally agreed development goals, including those contained in the United Nations Millennium Declaration and in the outcomes of the major United Nations conferences and international agreements since 1992." And it has agreed to "undertak[e] concrete actions and measures at all levels." But making such commitments isn't news—Canadians have heard them before. The real questions now are, What exactly needs to be done? And how? By whom? And by when? And how will Canadians know whether progress has been made and the commitments have been fulfilled?

Principles of good governance need to be applied

43. I believe it is imperative that the federal government start by producing its own concrete plan of action to answer these questions. For many years, the Auditor General of Canada and I have been stressing the importance of applying the principles of good governance — effective accountability mechanisms, adequate transparency, credible reporting, and protection of the public interest — to federal programs, partnerships, and practices. More than ever, I believe these principles are the key to future success and must be applied to the government's plan of action. In practical terms, this means that the federal government must do the following:

- Provide a plain language description of the commitment and what it means.
- Identify the new actions it needs to undertake along with those already under way, complete with realistic timetables and milestones.
- Assign clear and specific roles and responsibilities to federal departments and agencies for these actions.
- Establish concrete performance expectations and indicators of progress.
- Provide the necessary resources to implement them.
- Monitor and review progress that is made, including actions undertaken by partners.
- Report to the Canadian public regularly and in a transparent way.

[illegible] progress

44. In the coming months and years, I intend to track and report to Parliament and the Canadian public on the federal government's efforts to develop and implement a federal plan of action and meet the hundreds of commitments it made in Rio and Johannesburg and in the years between.

45. Further, I know that many national audit offices around the world share my concern about effective governance and the implementation of these commitments. Through the Working Group on Environmental Auditing of the International Organization of Supreme Audit Institutes—an international association of Auditors General and equivalents—I intend to build a collaborative audit regime along with my international counterparts to provide for independent monitoring and reporting of progress toward implementing commitments.

Conclusion

46. During this first decade after Rio, our findings have highlighted the serious and recurrent shortcomings in the federal government's efforts to protect the environment and promote sustainable development. Since the creation of the position of Commissioner of the Environment and Sustainable Development, we have reported numerous deficiencies in management practices and too many federal commitments that have not been implemented completely. It is rare that we can say "mission accomplished" where the federal government's promises for environmental protection and sustainable development are concerned.

47. Ten years after the Rio Declaration codified the principles of sustainable development and Canada formally committed to adopt them, is it not time to start applying them? The environmental impacts and the financial and social burdens of environmental degradation and unsustainable development are such that Canadians can no longer afford the luxury of indecision or inaction. By continuing to allow these costs to grow, the federal government is failing to address the most fundamental principle of sustainable development: ensuring that future generations have the resources to meet their needs.

48. If the environment and sustainable development are truly a priority of the federal government, I believe the government needs to provide Canadians with a vision of what a sustainable future can look like. And it must invest more to meet its commitments — more of its human and financial resources; its legislative, regulatory, and economic powers; and its political leadership — or Canada's environmental and sustainable development deficit will continue to grow.

49. Canada played a strong leadership role in Rio. And while I recognize that some efforts have been made by the Canadian government since then, much more needs to be done. My deep concern is that these efforts are not keeping pace with the profound effects of human activity on the vital natural resources that sustain us all. The challenges we face are multiplying far faster than the solutions we are adopting. I believe Canada can once again serve as a model for environmental protection and sustainable development. But the federal government will need to make a serious investment in sustainable development — one that matches the ambition of its commitments.

Appendix A Previous Work of the Office of the Auditor General and the Commissioner of the Environment and Sustainable Development

Our Office has conducted numerous audits and studies of environmental and sustainable development matters. All of our reports are available on our Web site (www.oag-bvg.gc.ca). The following are some of the issues we have examined and our main findings:

- **Climate change** is considered one of the greatest current sustainable development challenges. Chapter 3 of the Commissioner's 1998 Report (Responding to Climate Change—Time to Rethink Canada's Implementation Strategy) found that Canada was not expected to meet long-standing domestic and international commitments to stabilize greenhouse gas emissions. We attributed this failure primarily to poor planning and ineffective management. We updated our work in Chapter 6 of the Commissioner's 2001 Report where we noted that the federal government had made some important progress in rethinking its implementation strategy on climate change, and in changing the management structure for dealing with this issue by establishing a national climate change process.
- **Urban smog** is a serious form of air pollution for many Canadians. Chapter 4 (Smog: Our Health at Risk) of the Commissioner's 2000 Report found that while federal and provincial governments had set sound strategic direction through development of a national plan, the plan was destined to fail: governments and their partners never reached agreement on how to implement it.
- **Toxic substances** such as industrial chemicals, pesticides, and waste byproducts are a major cause of pollution in our lakes, rivers, air, and land. Chapter 3 (Understanding the Risks From Toxic Substances: Cracks in the Foundation of the Federal House) and Chapter 4 (Managing the Risks of Toxic Substances: Obstacles to Progress) of the Commissioner's 1999 Report raised concerns about the weakened state of scientific research and environmental monitoring, the slow progress in reducing releases of toxic substances into the environment, the government's growing reliance on voluntary controls of high-priority substances, the lack of a pesticide risk reduction strategy, and the sometimes divisive relations among federal departments. We have reported the results of our follow-up to this work in our current report.
- **Federal contaminated sites** pose a risk to the public in the release of harmful substances. Chapter 22 (Federal Contaminated Sites—Management Information on Environmental Costs and Liabilities) of the Auditor General's November 1996 Report, and our subsequent follow-up work, heavily criticized the government for its failure to identify and characterize—let alone remediate—hundreds of federally owned contaminated properties in Canada. The government still does not have a consolidated cleanup plan for its sites. This work has also been updated in this report.
- **Loss of biodiversity** relates to the protection of species and spaces at risk. Chapter 4 (Canada's Biodiversity Clock Is Ticking) of the Commissioner's 1998 Report raised concern about slow progress in acting on the Canadian Biodiversity Strategy and cited the need for a more cohesive federal implementation plan. Our 2001 chapter on the Great Lakes and St. Lawrence River basin contained a section on species and spaces at risk where we focused on protecting and recovering species at risk, conserving wetlands, and the federal government's stewardship efforts for conserving habitat.
- **Transboundary hazardous waste** was the subject of an audit that assessed whether the federal government had an effective regime for controlling its transport. Chapter 4 (Control of the Transboundary Movement of Hazardous Waste) of the Auditor General's April 1997 Report pointed to significant deficiencies in the enforcement of federal laws.
- **Ozone layer protection** reviewed the government's progress in dealing with this global environmental threat. In Chapter 27 (Ozone Layer Protection: The Unfinished Journey) of the Auditor General's December 1997 Report, as well as in Chapter 2 (Working Globally—Canada's International Environmental Commitments) of the Commissioner's 1998 Report, we credited the federal government for its leadership in implementing controls on ozone-depleting substances and meeting its international commitments. We also flagged the importance of maintaining a long-term perspective and focussing future efforts where they mattered the most.

- **Environmental assessment** is a key tool for preventing environmental harm caused by various projects. Chapter 6 (Environmental Assessment — A Critical Tool for Sustainable Development) of the Commissioner's 1998 Report found significant weaknesses in implementing the *Canadian Environmental Assessment Act* and a lack of rigorous assessments under the *Fisheries Act* (related to fish habitat). We also found poor compliance with the 1990 Cabinet directive that required departments to assess the environmental effects of federal policy and program initiatives submitted for Cabinet's consideration.
- **Tracking compliance with international agreements** is critical to the environment and to Canada's reputation. Chapter 2 (Working Globally — Canada's International Environmental Commitments) of the Commissioner's 1998 Report found that Canada does not systematically track implementation of the nearly 230 international environmental agreements and instruments that it is party to or has endorsed.
- **Freshwater pollution** in the Great Lakes, the St. Lawrence River and the Fraser River and along the Atlantic Coast was an audit subject in the past. Chapter 14 (The Control and Clean-up of Freshwater Pollution) of the Auditor General's 1993 Report, as well as follow-up recommendations in the 1995 Report, found that action plans for the management of water quality needed more attention from the federal government. The need for a federal framework of water quality objectives and for federal long-term strategic planning was also identified.
- **Partnerships for sustainable development** were the focus of a study that looked specifically at the use of partnering arrangements in the environmental field. In chapters 5, 6, 7, and 8 of the Commissioner's 2000 Report, we concluded that key success factors for successful partnerships include clear and realistic objectives and expectations for results, shared or complementary goals, effective and committed individuals, clear benefits for participating organizations, and senior management's interest.
- **New governance arrangements** with external partners are increasingly used to deliver federal programs and services to Canadians. Chapter 23 (Involving Others in Governing: Accountability at Risk) of the Auditor General's November 1999 Report found that under many of these arrangements, Parliament has limited means — in some cases, no means — of holding the government to account for the federal functions performed or the federal objectives to be achieved.
- **Reporting performance to Parliament** is critical to effective accountability. Chapter 19 (Reporting Performance to Parliament: Progress Too Slow) of the Auditor General's 2000 Report found persistent deficiencies, including a lack of concrete, measurable expectations; too much focus on reporting of activities instead of outcomes; very little linking of financial and non-financial information; and an overall lack of balance (reporting of good news only).
- **Science and technology** was the subject of work that assessed whether the federal government had met its commitments to manage its science and technology portfolio more strategically. In Chapter 9 (Science and Technology — Overall Management of Federal Science and Technology Activities) and Chapter 10 (Science and Technology — Management of Departmental Science and Technology Activities) of the Auditor General's 1994 Report, we noted that there had been a lot of activity but few results. We attributed the lack of progress to a lack of overall government-wide leadership, direction, and accountability for implementing desired changes. Our follow-up in Chapter 15 (Federal Science and Technology Activities — Follow-Up) of the Auditor General's 1996 Report noted considerable progress by the government, but we reiterated our concern about the need for leadership and effective accountability for results.
- **Fisheries management** has been a major focus of our work over the past decade. Reports by the Auditor General have examined the Northern Cod Adjustment and Recovery Program (1993, Chapter 12); the sustainability of Pacific salmon (1997, Chapter 28; 1999, Chapter 29) and Atlantic groundfish (1997, chapters 14 and 15); managing Atlantic shellfish in a sustainable manner (1999, Chapter 4); and salmon farming in British Columbia (2000, Chapter 30). The 2001 Report of the Commissioner examined a number of fisheries issues in the Great Lakes and St. Lawrence River basin. In all of the fisheries covered in our audits, we found that in the absence of a strategic framework for managing sustainable fisheries — a framework that would establish clear objectives and guiding principles and bring together biological, economic, and social factors — Fisheries and Oceans Canada reacted to events with a crisis management approach. Recent planning and policy initiatives show that the Department has given considerable thought to the problems it faces and is moving toward developing policy frameworks that may allow for orderly management of sustainable fisheries.

- **Agriculture** is a major economic activity in this country and has a significant impact on the environment. In recent years, the Auditor General has examined agri-food policy review (1993, Chapter 13); animal and plant health (1996, Chapter 9); and Prairie Farm Rehabilitation Administration (1997, Chapter 24). The Commissioner's 2001 Report examined manure and fertilizer management, soil erosion, the environmental impacts of agricultural policies and programs, and working toward environmentally sustainable agriculture, all with a focus on the Great Lakes and St. Lawrence River basin. Our findings show that the federal government must take greater action to make agriculture environmentally sustainable. Better evaluation, clearer roles, targeted action, and clearer and measurable commitments are needed.

- **Energy**, and in particular energy efficiency, is closely linked to climate change. Over the past decade, the Auditor General has examined energy megaprojects (1992, Chapter 14); the Atomic Energy Control Board (1994, Chapter 15) and Atomic Energy of Canada Limited (1996, Chapter 39); energy efficiency (1997, Chapter 10); and the Canadian Nuclear Safety Commission (2000, Chapter 27). In the Commissioner's 2001 Report, Chapter 6 reviewed Natural Resources Canada's progress in addressing our 1997 recommendations on energy efficiency initiatives. We found that the Department stated clearer performance expectations for these initiatives, made considerable progress in measuring and assessing the initiatives' performance, and significantly increased its efforts to link changes in energy use to changes in greenhouse gas emissions.

Appendix B *Auditor General Act* — Excerpts

An Act respecting the Office of the Auditor General of Canada
and sustainable development monitoring and reporting

INTERPRETATION

Definitions

2. In this Act,

"appropriate Minister"

"appropriate Minister" has the meaning assigned by section 2 of the *Financial Administration Act*;

"category I department"

"category I department" means

(a) any department named in Schedule I to the *Financial Administration Act*,

(b) any department in respect of which a direction has been made under subsection 24(3), and

(c) any department, as defined in the *Financial Administration Act*, set out in the schedule;

"Commissioner"

"Commissioner" means the Commissioner of the Environment and Sustainable Development appointed under subsection 15.1(1);

"sustainable development"

"sustainable development" means development that meets the needs of the present without compromising the ability of future generations to meet their own needs;

"sustainable development strategy"

"sustainable development strategy", with respect to a category I department, means the department's objectives, and plans of action, to further sustainable development.

DUTIES

Examination

5. The Auditor General is the auditor of the accounts of Canada, including those relating to the Consolidated Revenue Fund and as such shall make such examinations and inquiries as he considers necessary to enable him to report as required by this Act.

Idem

6. The Auditor General shall examine the several financial statements required by section 64 of the *Financial Administration Act* to be included in the Public Accounts, and any other statement that the President of the Treasury Board or the Minister of Finance may present for audit and shall express his opinion as to whether they present fairly information in accordance with stated accounting policies of the federal government and on a basis consistent with that of the preceding year together with any reservations he may have.

Annual and additional reports to the House of Commons

7. (1) The Auditor General shall report annually to the House of Commons and may make, in addition to any special report made under subsection 8(1) or 19(2) and the Commissioner's report under subsection 23(2), not more than three additional reports in any year to the House of Commons

(a) on the work of his office; and,

(b) on whether, in carrying on the work of his office, he received all the information and explanations he required.

Idem

(2) Each report of the Auditor General under subsection (1) shall call attention to any thing that he considers to be of significance and of a nature that should be brought to the attention of the House of Commons, including any cases in which he has observed that

(a) accounts have not been faithfully and properly maintained or public money has not been fully accounted for or paid, where so required by law, into the Consolidated Revenue Fund;

(b) essential records have not been maintained or the rules and procedures applied have been insufficient to safeguard and control public property, to secure an effective check on the assessment, collection and proper allocation of the revenue and to ensure that expenditures have been made only as authorized;

(c) money has been expended other than for purposes for which it was appropriated by Parliament;

(d) money has been expended without due regard to economy or efficiency;

(e) satisfactory procedures have not been established to measure and report the effectiveness of programs, where such procedures could appropriately and reasonably be implemented; or

(f) money has been expended without due regard to the environmental effects of those expenditures in the context of sustainable development.

STAFF OF THE AUDITOR GENERAL

Appointment of Commissioner

15.1 (1) The Auditor General shall, in accordance with the *Public Service Employment Act*, appoint a senior officer to be called the Commissioner of the Environment and Sustainable Development who shall report directly to the Auditor General.

Commissioner's duties

(2) The Commissioner shall assist the Auditor General in performing the duties of the Auditor General set out in this Act that relate to the environment and sustainable development.

SUSTAINABLE DEVELOPMENT

Purpose

21.1 The purpose of the Commissioner is to provide sustainable development monitoring and reporting on the progress of category I departments towards sustainable development, which is a continually evolving concept based on the integration of social, economic and environmental concerns, and which may be achieved by, among other things,

(a) the integration of the environment and the economy;

(b) protecting the health of Canadians;

(c) protecting ecosystems;

(d) meeting international obligations;

(e) promoting equity;

(f) an integrated approach to planning and making decisions that takes into account the environmental and natural resource costs of different economic options and the economic costs of different environmental and natural resource options;

(g) preventing pollution; and

(h) respect for nature and the needs of future generations.

Petitions received

22. (1) Where the Auditor General receives a petition in writing from a resident of Canada about an environmental matter in the context of sustainable development that is the responsibility of a category I department, the Auditor General shall make a record of the petition and forward the petition within fifteen days after the day on which it is received to the appropriate Minister for the department.

Acknowledgement to be sent

(2) Within fifteen days after the day on which the Minister receives the petition from the Auditor General, the Minister shall send to the person who made the petition an acknowledgement of receipt of the petition and shall send a copy of the acknowledgement to the Auditor General.

Minister to respond

(3) The Minister shall consider the petition and send to the person who made it a reply that responds to it, and shall send a copy of the reply to the Auditor General, within

(a) one hundred and twenty days after the day on which the Minister receives the petition from the Auditor General; or

(b) any longer time, where the Minister personally, within those one hundred and twenty days, notifies the person who made the petition that it is not possible to reply within those one hundred and twenty days and sends a copy of that notification to the Auditor General.

Multiple petitioners

(4) Where the petition is from more that one person, it is sufficient for the Minister to send the acknowledgement and reply, and the notification, if any, to one or more of the petitioners rather than to all of them.

Duty to monitor

23. (1) The Commissioner shall make any examinations and inquiries that the Commissioner considers necessary in order to monitor

(a) the extent to which category I departments have met the objectives, and implemented the plans, set out in their sustainable development strategies laid before the House of Commons under section 24; and

(b) the replies by Ministers required by subsection 22(3).

Commissioner's report

(2) The Commissioner shall, on behalf of the Auditor General, report annually to the House of Commons concerning anything that the Commissioner considers should be brought to the attention of that House in relation to environmental and other aspects of sustainable development, including

(a) the extent to which category I departments have met the objectives, and implemented the plans, set out in their sustainable development strategies laid before that House under section 24;

(b) the number of petitions recorded as required by subsection 22(1), the subject-matter of the petitions and their status; and

(c) the exercising of the authority of the Governor in Council under any of subsections 24(3)to (5).

Submission and tabling of report

(3) The report required by subsection (2) shall be submitted to the Speaker of the House of Commons and shall be laid before that House by the Speaker on any of the next fifteen days on which that House is sitting after the Speaker receives it.

Strategies to be tabled

24. (1) The appropriate Minister for each category I department shall cause the department to prepare a sustainable development strategy for the department and shall cause the strategy to be laid before the House of Commons

(a) within two years after this subsection comes into force; or

(b) in the case of a department that becomes a category I department on a day after this subsection comes into force, before the earlier of the second anniversary of that day and a day fixed by the Governor in Council pursuant to subsection (4).

Updated strategies to be tabled

(2) The appropriate Minister for the category I department shall cause the department's sustainable development strategy to be updated at least every three years and shall cause each updated strategy to be laid before the House of Commons on any of the next fifteen days on which that House is sitting after the strategy is updated.

Governor in Council direction

(3) The Governor in Council may, on that recommendation of the appropriate Minister for a department not named in Schedule I to the *Financial Administration Act*, direct that the requirements of subsections (1) and (2) apply in respect of the department.

Date fixed by Governor in Council

(4) On the recommendation of the appropriate Minister for a department that be comes a category I department after this subsection comes into force, the Governor in Council may, for the purpose of subsection (1), fix the day before which the sustainable development strategy of the department shall be laid before the House of Commons.

Regulations

(5) The Governor in Council may, on the recommendation of the Minister of the Environment, make regulations prescribing the form in which sustainable development strategies are to be prepared and the information required to be contained in them.

Main Points

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Toxic Substances Revisited

Chapter 1

Main Points

1.1 The production, use, and release of industrial chemicals, pesticides, and their by-products in Canada can pose serious risks to the health of Canadians and to our environment. Specific groups of Canadians—for example, the Inuit in the North and children—can be particularly at risk because of their higher exposure and sensitivities. Some chemicals are associated with health problems such as cancer, decreased fertility, and neurological disorders. Other chemicals are the subject of considerable scientific debate over which ones (and in what concentrations) might be affecting human health and the environment.

1.2 In 1999 we audited the federal government's scientific investigation of existing industrial chemicals and pesticides and its management of their use. We concluded that the federal government was not adequately managing the risks created by toxic substances.

1.3 In 2002 we revisited the departments we had audited to assess their progress in implementing our 27 recommendations. This follow-up has found mixed progress. Although the federal government has made some progress in managing toxic substances since our 1999 audit, its ability to detect, understand, and prevent the harmful effects of toxic substances is still limited. The processes we observed seem to defy timely, decisive, and precautionary action. Many of the root causes of problems we found in 1999 continue today: underresourced commitments; major gaps in scientific knowledge; and burdensome regulatory processes. None of this augurs well for our health or our environment. Sustainable development offers the hope of a new approach to managing the risks posed by toxic substances. In our opinion, the current situation and future prospects are not environmentally, economically, or socially acceptable. We are leaving our children the responsibility of assessing, and certainly of managing, toxic substances in use today.

1.4 In the management of industrial chemicals, we found that departments have made encouraging progress in some areas:

- Research activities are better co-ordinated and research priorities have been established, helping to ensure that the expertise of the federal government and other partners will be used to protect human health and the environment.
- The process for managing toxic substances has been improved. It will allow for the development of strategies and management options to begin before the final assessment report on a substance is completed.

- Tracking of key toxic substances has been improved through additions to the National Pollutant Release Inventory. The information provides Environment Canada with the ability to track changes in releases of key substances from some sources.

1.5 However, we found more limited progress in these essential areas:

- Measuring the presence of toxic substances in the environment and their effects on plants, animals, and humans in order to understand, for example, key impacts.
- Applying risk management controls to the substances on the first list of priority substances that were declared toxic in 1994, to reduce their release into the environment.
- Applying the Toxic Substances Management Policy across federal departments, a policy that establishes precautionary and proactive principles and accountability for dealing with toxic substances and that is to be applied in all areas of federal responsibility.
- Achieving the government's objective of virtually eliminating predominantly man-made releases of toxic substances that are persistent and bioaccumulative.

1.6 Progress in addressing our recommendations on pesticides is limited:

- There is still no risk reduction policy guiding pesticide management to assist in minimizing the risks to people and the environment.
- Few of the pesticides approved for use decades ago have been re-evaluated against current standards.
- The government has no overall picture of pesticide use in Canada because there is still no database on pesticides sales to assist in monitoring the risks to health, safety, and the environment.

Background and other observations

1.7 Since our 1999 audit a number of new developments have occurred, including the ratification of the Stockholm Convention on Persistent Organic Pollutants (POPs) and the introduction of the new *Canadian Environmental Protection Act, 1999* (CEPA, 1999). CEPA, 1999 has led to sweeping changes in federal activities, introducing new requirements and modifying existing ones.

1.8 Our follow-up looked more closely at one of these changes, the requirement that Environment Canada and Health Canada categorize all substances on the Domestic Substances List—around 23,000 substances. This categorization must be completed by 14 September 2006. The federal government is also required subsequently to assess or screen the substances that have been identified as having the greatest potential exposure to Canadians, or that are persistent or bioaccumulative and inherently toxic to human beings or non-human organisms. This process may take up to a few decades to complete.

The Department has responded. [illegible]

The Legacy of Federal Contaminated Sites

Chapter 2

Main Points

2.1 The federal government has so far failed to address the issue of federal contaminated sites adequately. Thirteen years after it started to deal with this issue, it still

- does not know how many of its sites are contaminated;
- does not have a full picture of the risks to human health and the environment and the likely cost of dealing with (cleaning up or managing) the sites;
- does not have a ranking of the worst sites in order of risks;
- does not have long-term, stable funding to manage the problem effectively; and most important,
- does not have firm central commitment and leadership, including an action plan for dealing with the higher-risk sites in a timely manner.

2.2 The federal government could appear to be applying a double standard. On the one hand, those who lease federal lands and cause contamination are required under recent lease agreements to clean up their own mess. On the other hand, the government has failed to establish a similar mandatory requirement for federal organizations to clean up their own contamination on federal lands.

2.3 At its current spending rate, the government will need decades to deal with its known contaminated sites. It has assessed over 8,500 sites since 1996 but has yet to begin evaluating at least 1,500 additional sites it suspects to be contaminated. Government officials are considering including their current estimate of the minimum amount of the government's environmental liability in the notes to the government's financial statements for the year ended 31 March 2002. We estimate that the total cost to Canadians to deal with these sites represents billions of dollars.

2.4 The federal government says it is managing its fiscal deficits to avoid leaving a burden for future generations, but its failure to deal in a timely manner with the environmental legacy of contaminated sites in its own backyard passes on another burden.

Background and other observations

2.5 As noted in our audits of 1995 and 1996, the need for a program to clean up contaminated sites in Canada was recognized in 1989 when the federal government participated in a $250 million five-year federal provincial program. As part of this program, Environment Canada started to develop a list of federal sites suspected of being contaminated and requiring further study. This program ended in 1995. Other federal commitments since 1996 have so far resulted in only limited progress toward resolving the problem of contaminated sites under federal responsibility. The progress has been focussed on developing policy and guidance documents, assembling a more complete picture of federal contaminated sites, and cleaning up some of them.

2.6 Unless they are managed properly, contaminated sites can lead to significant contamination of water, soil, and air, thus threatening human health and the environment; they can also take valuable land out of productive use and jeopardize the way of life of those who live off the land.

2.7 It is far easier and less costly (up to 40 times less expensive in the case of groundwater supply contamination, according to an estimate by the United States Environmental Protection Agency) to prevent environmental damage than to try and correct it after contamination occurs. Pollution prevention is an important element of sustainable development.

2.8 The use of storage tank systems containing petroleum or allied petroleum products is a major cause of the contamination on federal sites and is a widespread problem. The current regulations are mainly a paper exercise that will do little, if anything, to reduce contamination caused by spills or leaks. Significant gaps exist, with potentially harmful consequences. For example, under the regulations a leaky storage tank could remain in use, polluting the surrounding environment, and there is no requirement to clean up the contamination.

2.9 One of Canada's largest and most contaminated sites is the Sydney tar ponds. Although federal officials do not consider it to be a federal site, the government has

- spent over $66 million on environmental studies and cleanup attempts since the 1980s. An additional contribution of $187 million was made to modernize steel-making facilities—amounting to over $250 million spent on this site and surrounding area during the last 20 years;
- not yet found, along with the other parties involved, an acceptable cleanup or management solution, although federal government officials anticipate that the community will recommend options in spring 2003 for consideration by the three levels of government;
- not decided on the extent of its future contribution, if any, toward the costs associated with the next cleanup phase of the Sydney tar ponds site; and
- not developed a clear policy for dealing with contaminated sites where other levels of government are involved.

After 20 years and $66 million spent on environmental studies and cleanup attempts, the federal government still needs to finalize its game plan for the Sydney tar ponds site.

Federal departments and agencies have responded. [illegible]

Abandoned Mines in the North

Chapter 3

Main Points

3.1 Hundreds of thousands of tons of highly toxic chemicals such as arsenic and cyanide are found at northern abandoned mine sites. These chemicals, the result of past mining operations, have accumulated to hazardous levels. Indian and Northern Affairs Canada estimates that the cleanup and closure of these complex contaminated sites will cost Canadian taxpayers at least $555 million. In many cases, long-term site management will be needed because complete and definitive cleanup will not be possible.

3.2 Every year, Indian and Northern Affairs Canada spends millions of dollars in an effort to stop contaminants from escaping these sites. This year alone, the Department has budgeted up to $26 million to prevent water contamination and protect human health and the environment.

3.3 This current care and maintenance approach is a band-aid approach that does little to solve the problems in the long term. Further, considering the rapidly growing costs associated with delaying decisive action, it is not an optimal use of public funds. With insufficient financial resources, the Department is scrambling to keep up with the demands. Long-term stable funding and long-term solutions are required.

3.4 In the past, the Department did not collect sufficient financial security from mining companies operating in the North to cover the costs for the eventual cleanup and closure of mine sites. Prior to 1993, there were legislated limits to the amount of financial security that could be collected. These restrictions were removed in 1993. Since then, Indian and Northern Affairs Canada has progressively increased the amount of financial security required from owners of operating mines in the North. Its objective is to obtain full financial security for all mining projects.

3.5 The Department reported that full financial security is being achieved for the two new diamond mines. However, it may not be possible for some older mines still in operation. If these older mines are abandoned, Canadian taxpayers will end up paying the difference for their cleanup and closure.

3.6 The Department's challenge of addressing the problems of northern abandoned mines is two-fold:

- cleaning up the environmental mess it has inherited from the past; and
- ensuring that mining companies operating in the North pay for the cleanup of the environmental problems they create now and in the future.

Background and other observations

3.7 As the key federal department in Canada's north, which includes the Yukon, Northwest Territories, and Nunavut, Indian and Northern Affairs Canada has a broad mandate. It is the land administrator on behalf of the federal government, a key promoter of economic development, and a contributor to the protection of the environment. The Department also has responsibilities for Aboriginal peoples, primarily for Status Indians living on reserve and Inuit.

3.8 An abandoned mine is one whose owner is out of business. When a northern mine is abandoned, the land lease reverts back to the federal government, and Indian and Northern Affairs Canada inherits the associated environmental costs and the day-to-day management responsibility for the mine.

3.9 Over recent years, the Department has made progress toward establishing a comprehensive program to deal with contaminated sites in the North, including abandoned mines. Officials of the Department indicated that full implementation of the related draft management framework will depend on available human and financial resources.

3.10 The method chosen by Indian and Northern Affairs Canada to ensure that mining companies pay for the eventual cleanup of mine sites is the collection of financial security deposits from them prior to start-up and while they are in operation. If a mining company conducts the proper cleanup and closure of its mine site, the financial security collected by the Department is returned.

The Department has responded. Indian and Northern Affairs Canada agrees with our recommendations. The Department has provided us with a clear description of the specific actions it will take to address our recommendations, including time frames within which these actions are to be completed, where appropriate.

Invasive Species

Chapter 4 Main Points

4.1 The federal government has not responded effectively to invasive species that threaten Canada's ecosystems, habitats, and other species. Ten years after the federal commitment to prevent their introduction or to control or eradicate them, the number of invasive species in Canada continues to grow. We found that neither the United Nations Convention on Biological Diversity nor the Canadian Biodiversity Strategy has triggered an identifiable change in the government's approach:

- The federal government has not identified the invasive species that threaten Canada's ecosystems or the pathways by which they arrive.
- The human and financial resources to deal with invasive species are spread across several federal departments and agencies as well as outside organizations, and they are not co-ordinated. There is no consensus on priorities and no clear understanding among federal departments or between the federal government and other jurisdictions of who will do what to respond.
- The federal government has not established the capability to gauge progress on its commitment to deal with invasive species.

4.2 No federal department sees the big picture or has overarching authority to ensure that federal priorities are established and action is taken. There is a bias toward continuing dialogue and consensus building and a lack of practical action to prevent invasive species from harming Canada's ecosystems, habitats, or native species.

4.3 Since invasive species frequently travel along as stowaways with people, goods, and vehicles moving between regions with different ecosystems, increases in trade and the gross national product—clearly a key economic goal—will almost certainly lead to further invasions unless the federal government takes concrete steps to prevent them. If action is not taken, costs will mount; and because invasive species are a leading cause of biodiversity loss, our storehouse of biological resources will continue to be depleted.

4.4 Prevention is recognized by experts and the government as the best response to invasive species. Preventive measures would not be cost-free, or stop all invaders, but they are generally considered more practical than reacting to a succession of crises and repairing damage after invaders have become established. Prevention can also reduce the cost and ecological impacts of chemical controls and biodiversity loss associated with invasive species.

Background and other observations

4.5 Fish, plants, insects, bacteria, viruses, and other organisms found in an area beyond their native range are alien to that area. Not all alien species are harmful. Indeed, many have been introduced intentionally into Canada for the benefits they offered. But some, known as invasive species, can cause disease in native plants and animals or prey upon them; change local habitat, making it inhospitable to native species; or simply reproduce faster than native species and crowd them out by inhabiting their space and eating their food. Experts have concluded that invasive species are second only to habitat destruction as a leading cause of biodiversity loss, including local extinctions of species. Studies to date indicate that they cause billions of dollars of damage to Canada's economy every year.

4.6 In 1992, Canada and 167 other countries signed the United Nations Convention on Biological Diversity and pledged to prevent the introduction of, or control or eradicate, alien species that threaten ecosystems, habitats, or other species. The Biodiversity Convention Office was established at Environment Canada to co-ordinate a Canadian response; it produced the Canadian Biodiversity Strategy in 1995.

4.7 This audit focussed on the extent to which Environment Canada, on behalf of the federal government, has co-ordinated an effective national response to invasive species that threaten Canada's ecosystems, habitats, or other species. We set out to determine to what extent Canada's 1992 commitment and its 1995 strategy triggered a change in the federal government's approach to managing those species and the impact of any changes on prevailing trends.

The departments have responded. [illegible]

Sustainable Development Strategies

Chapter 5

Main Points

5.1 Sustainable development strategies of federal departments and agencies are not yet fulfilling their potential to influence change toward sustainable development. The strategies are used as a communications tool, a foundation for further change, and a focal point for managing sustainable development. But currently they are not the strategic documents they were meant to be.

5.2 The commitments made by departments and agencies are the nuts and bolts of the strategies. They form the basis on which departments report annually on their progress toward sustainable development. We found that measuring and reporting on progress continues to be a challenge for departments. The sheer volume of commitments in the strategies makes reporting an onerous task. Moreover, in departmental performance reports the quality of reporting on sustainable development varies widely, with weaknesses persisting from year to year.

5.3 The first two rounds of sustainable development strategies laid the foundation for progress. The next step for departments is to focus their strategies more on what they need to do differently to further sustainable development.

5.4 If the strategies are to evolve to their full potential, direction and support from the centre of government are essential. The challenge currently faced by each department is like assembling a large jigsaw puzzle without the picture box. Many of the needed pieces are on the table, but it is not clear what picture is meant to emerge. In setting direction, the federal government needs to describe, in terms all Canadians can understand, what a sustainable Canada would look like 20 years from now.

Background and other observations

5.5 In 1992, Canada and many other countries around the world who attended the Earth Summit in Rio de Janeiro committed to develop national strategies for sustainable development. The strategies were seen as a way to translate the concept of sustainable development into a reality. Canada chose to make selected federal departments and agencies responsible for sustainable development within the sphere of their mandates.

5.6 Twenty-eight departments and agencies tabled their first sustainable development strategies in December 1997. In our 1998 Report, we called the strategies "less a commitment to change in order to move toward sustainable development than a restatement of the status quo." The Commissioner said in that report that the second strategies were expected to focus more on what departments would do differently to promote sustainable development. The second strategies were tabled in February 2001.

The government has responded. Several departments and agencies accepted our recommendation [illegible] the [illegible] development. Other departments [illegible]

The Privy Council Office did not accept our recommendation to provide leadership in renewing the federal government's commitment to sustainable development, including providing enhanced guidance and direction to departments and agencies. In its response, the Privy Council Office indicated that leadership should come from the Sustainable Development Coordinating Committee, working with the Assistant Deputy Ministers' Task Force and the Interdepartmental Network on Sustainable Development Strategies.

Exercising Your Right to Know: The Environmental Petitions Process

Chapter 6

Main Points

6.1 The Commissioner of the Environment and Sustainable Development is convinced that the environmental petitions process offers great promise. In response to recent petitions, government organizations have changed or clarified their policies, undertaken site inspections, and even launched a new project. As the guardian of the process, the Commissioner is committed to ensuring that the opportunities afforded by the process are realized.

6.2 While a number of petitions received to date are from established national or international environmental groups, most continue to come from individual Canadians, local volunteer lobby groups, regional and provincial organizations, and parliamentarians.

6.3 Protecting fish and fish habitat remains a significant concern for Canadians. Fisheries and Oceans Canada continues to be one of the most petitioned departments.

6.4 Of the 13 responses required from Fisheries and Oceans Canada during the past year, only two responses were within the time limit stipulated under the *Auditor General Act*.

6.5 Environmental petitions and the responses provided by federal ministers are now part of the public record. For full details on environmental petitions and their responses, you can access our petitions catalogue on our Web site at www.oag-bvg.gc.ca/environment.

Background and other observations

6.6 Canadians have a right to know whether the government is taking environmental and sustainable development issues seriously. The environmental petitions process, under the *Auditor General Act*, provides parliamentarians and Canadians with a unique vehicle for pursuing environmental concerns that involve the federal government. The issue may be something that affects all Canadians, such as biotechnology, or it could be something happening in a local community. With a petition, which can be a simple letter, it is possible to raise questions and concerns and to get answers and action from federal departments and agencies.

6.7 Through the petitions process, federal departments and agencies may be asked to explain federal policy, investigate an environmental infraction, or examine their enforcement of federal environmental legislation.

6.8 The Commissioner of the Environment and Sustainable Development, Johanne Gélinas, is committed to making the petitions process work for

Canadians. Charged with overseeing petitions on behalf of the Auditor General, the Commissioner is responsible for petitions from the beginning of the process right through to the end. She receives petitions and ensures that they are forwarded to the appropriate federal ministers. She monitors the responses and is required to report annually on petitions to the House of Commons.

6.9 It is evident that many departments and agencies are putting a lot of time and effort into their responses. Responses that do not adequately address the petitioners' requests may be sent back to federal ministers. In the coming year, the Commissioner intends to scrutinize responses more closely and selectively follow up on petition commitments made by departments and agencies.

6.10 The process is gaining momentum. In the past year (16 July 2001 to 15 July 2002), we received 28 petitions, considerably more than in previous years and close to one half of the total of all petitions received to date (60 in total).

Report of the Commissioner of the Environment and Sustainable Development to the House of Commons—2002

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Chapter 6 Exercising Your Right to Know: The Environmental Petitions Process

2002

Report of the
Commissioner of the Environment and Sustainable Development
to the House of Commons

Chapter 1
Toxic Substances Revisited

Office of the Auditor General of Canada

The 2002 Report of the Commissioner of the Environment and Sustainable Development comprises 6 chapters and The Commissioner's Perspective—2002. The main table of contents is found at the end of this publication.

This report is available on our Web site at www.oag-bvg.gc.ca.

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Chapter

1

Toxic Substances Revisited

The audit work reported in this chapter was conducted in accordance with the legislative mandate, policies, and practices of the Office of the Auditor General of Canada. These policies and practices embrace the standards recommended by the Canadian Institute of Chartered Accountants.

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Toxic Substances Revisited

Main Points

1.1 The production, use, and release of industrial chemicals, pesticides, and their by-products in Canada can pose serious risks to the health of Canadians and to our environment. Specific groups of Canadians—for example, the Inuit in the North and children—can be particularly at risk because of their higher exposure and sensitivities. Some chemicals are associated with health problems such as cancer, decreased fertility, and neurological disorders. Other chemicals are the subject of considerable scientific debate over which ones (and in what concentrations) might be affecting human health and the environment.

1.2 In 1999 we audited the federal government's scientific investigation of existing industrial chemicals and pesticides and its management of their use. We concluded that the federal government was not adequately managing the risks created by toxic substances.

1.3 In 2002 we revisited the departments we had audited to assess their progress in implementing our 27 recommendations. This follow-up has found mixed progress. Although the federal government has made some progress in managing toxic substances since our 1999 audit, its ability to detect, understand, and prevent the harmful effects of toxic substances is still limited. The processes we observed seem to defy timely, decisive, and precautionary action. Many of the root causes of problems we found in 1999 continue today: underresourced commitments; major gaps in scientific knowledge; and burdensome regulatory processes. None of this augurs well for our health or our environment. Sustainable development offers the hope of a new approach to managing the risks posed by toxic substances. In our opinion, the current situation and future prospects are not environmentally, economically, or socially acceptable. We are leaving our children the responsibility of assessing, and certainly of managing, toxic substances in use today.

1.4 In the management of industrial chemicals, we found that departments have made encouraging progress in some areas:

- Research activities are better co-ordinated and research priorities have been established, helping to ensure that the expertise of the federal government and other partners will be used to protect human health and the environment.
- The process for managing toxic substances has been improved. It will allow for the development of strategies and management options to begin before the final assessment report on a substance is completed.

- Tracking of key toxic substances has been improved through additions to the National Pollutant Release Inventory. The information provides Environment Canada with the ability to track changes in releases of key substances from some sources.

1.5 However, we found more limited progress in these essential areas:

- Measuring the presence of toxic substances in the environment and their effects on plants, animals, and humans in order to understand, for example, key impacts.
- Applying risk management controls to the substances on the first list of priority substances that were declared toxic in 1994, to reduce their release into the environment.
- Applying the Toxic Substances Management Policy across federal departments, a policy that establishes precautionary and proactive principles and accountability for dealing with toxic substances and that is to be applied in all areas of federal responsibility.
- Achieving the government's objective of virtually eliminating predominantly man-made releases of toxic substances that are persistent and bioaccumulative.

1.6 Progress in addressing our recommendations on pesticides is limited:

- There is still no risk reduction policy guiding pesticide management to assist in minimizing the risks to people and the environment.
- Few of the pesticides approved for use decades ago have been re-evaluated against current standards.
- The government has no overall picture of pesticide use in Canada because there is still no database on pesticides sales to assist in monitoring the risks to health, safety, and the environment.

Background and other observations

1.7 Since our 1999 audit a number of new developments have occurred, including the ratification of the Stockholm Convention on Persistent Organic Pollutants (POPs) and the introduction of the new *Canadian Environmental Protection Act, 1999* (CEPA, 1999). CEPA, 1999 has led to sweeping changes in federal activities, introducing new requirements and modifying existing ones.

1.8 Our follow-up looked more closely at one of these changes, the requirement that Environment Canada and Health Canada categorize all substances on the Domestic Substances List—around 23,000 substances. This categorization must be completed by 14 September 2006. The federal government is also required subsequently to assess or screen the substances that have been identified as having the greatest potential exposure to Canadians, or that are persistent or bioaccumulative and inherently toxic to human beings or non-human organisms. This process may take up to a few decades to complete.

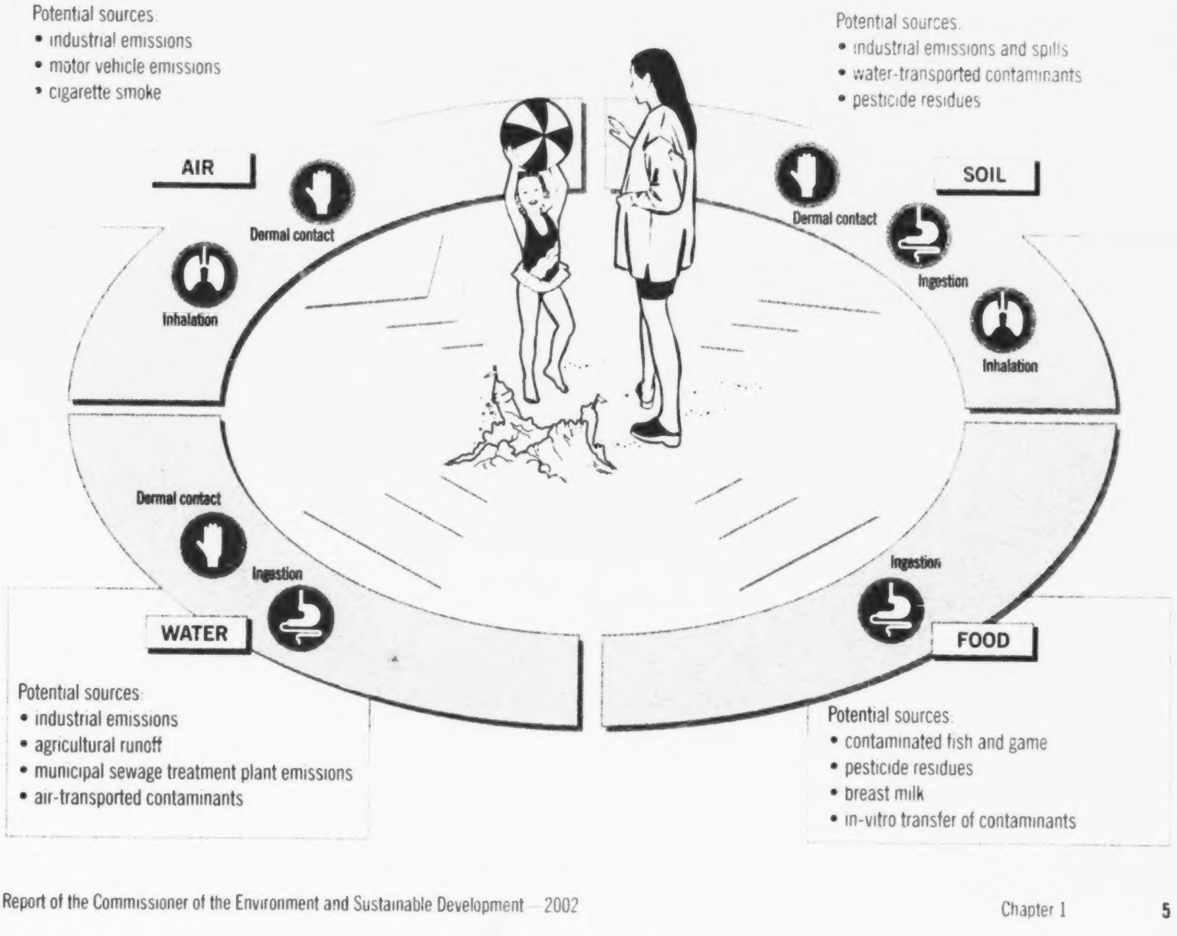
The Department has responded. In this follow-up, we did not make new recommendations to departments. The six departments audited by the 1999 audit and by this follow-up have provided a written response to the chapter. The responses, in the Conclusion section of this chapter, indicate that the responsible departments will continue to [illegible] within available resources. [illegible] will take

Introduction

1.9 Chemicals are used and found everywhere in Canadian society—in our homes, cars, farms, industries, computers, hospitals, clothing, foods, products, and schools. They contribute to our quality of life, our economic well-being, and our industrial competitiveness.

1.10 These substances enter our air, water, land, and food from several sources including industries, agricultural runoff, contaminated sites, abandoned mines, vehicle emissions, and consumer products used in our homes. However, some substances are harmful or could be harmful to the health of Canadians and to their environment. The worst of these, toxic substances, have been linked to lung disease, reproductive problems and birth defects, cancers, developmental disorders, allergic reactions, lowered resistance to disease, and other illnesses or disorders. Major pathways of potential human exposure are illustrated in Exhibit 1.1. A list of some toxic substances, their sources of release, and related health concerns are shown in Exhibit 1.2.

Exhibit 1.1 **Major pathways of human exposure to environmental contaminants**


Potential sources:
• industrial emissions
• motor vehicle emissions
• cigarette smoke
AIR
Dermal contact
Inhalation
Potential sources:
• industrial emissions and spills
• water-transported contaminants
• pesticide residues
SOIL
Dermal contact
Ingestion
Inhalation
Dermal contact
Ingestion
WATER
Potential sources:
• industrial emissions
• agricultural runoff
• municipal sewage treatment plant emissions
• air-transported contaminants
Ingestion
FOOD
Potential sources:
• contaminated fish and game
• pesticide residues
• breast milk
• in-vitro transfer of contaminants

1.11 There are many types and definitions of toxic substances. The 1999 audit looked broadly at "toxic substances," including both industrial chemicals and pesticides. Although these substances are treated differently under federal legislation and associated programs, they both have the potential to cause harm to Canadians and their environment. The term "toxic" has an everyday meaning but can also have a precise legal meaning. Exhibit 1.3 defines the terms used in this report.

1.12 For the many reasons we noted in 1999, tackling the problems associated with toxic substances is a massive and complex challenge for the federal government. It is not a single problem: there are thousands of potentially toxic substances. Substances can be released from "point sources" (for example, specific industrial plants) and from "non-point sources" (for example, vehicle exhaust and agricultural runoff). Many substances enter

Selected toxic substances, their global and local sources of release, and related health concerns

Toxic substances	Sources of release	Potential human health concerns
Heavy metals (and related compounds)		
Lead, cadmium, mercury	Mining, hydro-reservoirs, coal-fired power plant emissions, industrial chemicals, batteries, paint, ceramics, plumbing, electrical supplies	Behavioural and neurological disorders, brain and kidney damage, bone disease
Contaminants and byproducts		
Chlorinated dioxins and furans, PCBs, chlorinated naphthalenes	Pulp and paper, incineration, manufacturing, electrical insulation	Decreased fertility, prostate and testicular cancer, reproductive disorders, breast cancer, acute toxicity, hormone disruption, chloracne, liver damage
Pesticides		
DDT*, toxaphene*, aldrin*, dieldrin*, endrin*, chlordane*, lindane*, copper chromated arsenate	Agriculture, agri-food, forestry, residential and municipal use	Cancer, reproductive disorders, irritations of skin membrane and respiratory tract, acute toxicity
Commercial chemicals		
Chloroethylenes, chloroethanes, benzene, butadiene, ozone-depleting substances	Industrial processes, incineration, industrial and municipal effluents	Induction of tumours or cancers, increased UV exposure
Common air pollutants		
Respirable particulate matter (PM_{10} and $PM_{2.5}$), volatile organic compounds (VOCs), nitrogen oxides (NO_x), ground-level ozone, sulphur dioxide (SO_2)	Vehicle emissions, incineration, industrial processes, construction, smelting, power plant emissions	Bronchitis, dermatitis, respiratory disease, decreased lung and pulmonary function (cardiovascular challenge), inflammation and irritation of respiratory tract, induced asthmatic attacks

[illegible]

[illegible]

the environment from local sources but others originate beyond Canada's borders. Some substances occur naturally in the environment (such as heavy metals) and some are released through natural processes and also human activity.

1.13 But which substances pose risks to our health and environment? And what should the federal government be doing about them? The government has been grappling with these questions for decades, and over time it has responded with a complex labyrinth of scientific research and monitoring, legislation and regulations, policies and voluntary programs.

Toxic substances are also found in the home, for example, benzene emissions from automobiles parked in attached garages.

1.14 In 1999 we audited specific aspects of the federal response to toxic substances. We examined activities in six key departments (Environment Canada, Health Canada (including the Pest Management Regulatory Agency), Fisheries and Oceans Canada, Agriculture and Agri-Food Canada, Natural Resources Canada, and Industry Canada). We reviewed three key pieces of federal legislation—the *Canadian Environmental Protection Act* (CEPA), the *Fisheries Act*, and the *Pest Control Products Act*. We found significant weaknesses in both the activities and the legislative framework, and we addressed them in 27 recommendations. This chapter provides a report on the status of the departments' progress in implementing these recommendations.

1.15 Chapter 3 of the Commissioner's 1999 Report, *Understanding the Risks from Toxic Substances: Cracks in the Foundation of the Federal House*, focussed on how federal departments provide scientific information to support decision making. It examined the coordination of research among federal departments, the state of environmental monitoring networks, and

Defining toxic substances

Toxic substances—An everyday term that generally includes industrial and commercial chemicals, heavy metals, manufacturing by-products, and pesticides that, when released into the environment, have the potential to harm human health or environmental quality.

Substances toxic under CEPA, 1999—A substance is defined as toxic under the *Canadian Environmental Protection Act, 1999* if it is "entering or may enter the environment in a quantity or concentration or under conditions that: (a) have or may have an immediate or long-term harmful effect on the environment or its biological diversity; (b) constitute or may constitute a danger to the environment on which life depends; or (c) constitute or may constitute a danger in Canada to human life or health."

CEPA List of Toxic Substances—For substances on Schedule 1 of CEPA, 1999, "the Governor in Council may, if satisfied that a substance is toxic, on the recommendation of the Ministers of Health and Environment, make an order adding the substance to the list of toxic substances in Schedule 1." When a substance is listed on Schedule 1, the government has the authority to regulate it and take preventive or control actions (for example, pollution prevention plans and regulations). There are currently 52 substances on the CEPA, 1999 list.

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* A special review of lindane under the *Pest Control Products Act* has resulted in a decision to phase out all remaining uses of this active ingredient (5 April 2002). The other substances in this list are no longer used in Canada but are still present in the environment. Long-range transport is the way these persistent substances still enter Canada.

Many of these health concerns were first observed in wildlife (including fish) by researchers. In addition to sharing many of the potential human health endpoints (such as cancer), wildlife populations are also vulnerable to other endpoints, including wasting, failure to thrive, eggshell thinning, skewed sex ratios, alterations in recruitment to breeding populations, and population decline. Given that they may be exposed in a manner different from humans and that they are susceptible to different kinds of effects, plants and animals can be either more or less susceptible than humans.

the environment from local sources but others originate beyond Canada's borders. Some substances occur naturally in the environment (such as heavy metals) and some are released through natural processes and also human activity.

1.13 But which substances pose risks to our health and environment? And what should the federal government be doing about them? The government has been grappling with these questions for decades, and over time it has responded with a complex labyrinth of scientific research and monitoring, legislation and regulations, policies and voluntary programs.

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A follow-up to our 1999 Report: chapters 3 and 4

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the scientific assessment of existing industrial chemicals and pesticides. Our audit found the following:

- A growing gap between the demands placed on federal departments to provide and use scientific information on toxic substances and their ability to meet existing obligations and respond to emerging issues.
- Weak co-ordination and collaboration among departments undertaking research and monitoring.
- Significant shortcomings in the federal government's environmental monitoring activities and programs.
- Failure to reassess previously approved pesticides against current standards for protection of human health and the environment.
- Fragmentation of federal programs as well as conflict and divisiveness among departments, leading to indecision and inaction.

Overall, we concluded that the federal government's ability to detect and understand the effects of toxic substances on Canadians and our ecosystems was seriously threatened.

1.16 Chapter 4 of our 1999 Report, Managing the Risks of Toxic Substances: Obstacles to Progress, focussed on federal departments' management of the risks created by substances identified as toxic. It examined legislation, government-wide policies, and voluntary programs used to achieve virtual elimination, life cycle management, pollution prevention, and pesticide risk reduction. It also looked at the tracking and reporting of toxic releases and pesticide sales. Our audit found the following:

- A high degree of conflict among departments.
- Failure to develop and implement risk management objectives and associated plans for many toxic substances.
- Failure to implement key federal policies as intended, including the Toxic Substances Management Policy.
- Little action on substances assessed and declared toxic under the *Canadian Environmental Protection Act*.
- Failure to develop a risk reduction policy or strategy for pesticides.
- Inadequate tracking of toxic substance releases and pesticides.
- Lack of effective accountability, reporting, and monitoring of voluntary programs used to manage high-priority substances.

Overall, we concluded that the federal government was not managing the risks adequately.

The federal role

1.17 As in 1999, the federal government's main responsibilities in the management of industrial chemicals are to identify which substances pose a risk to human health and the environment and to determine what polluters must do to avoid or minimize the use and release of toxic substances. Nine pieces of federal legislation govern the assessment, production, use, transportation, and disposal of toxic substances.

1.18 **Shared but different responsibilities.** As we reported in 1999, a complicated infrastructure of scientific research and monitoring, regulations, policies, and voluntary programs has been established in Canada to protect the health of Canadians and their environment from the threats posed by toxic substances. This infrastructure involves not only the federal government but also provincial governments, industry, academia, and non-government organizations.

1.19 Several federal departments are engaged in activities to assess and manage the risks associated with toxic substances; no one department has the full responsibility. Rather, each has a different yet complementary role to play, determined by its mandate, its scientific capacity, and its legislative responsibilities. Underpinning our 1999 audit findings and those of this follow-up is the recognition that departments need to work co-operatively together to ensure that the collective federal expertise is consistently brought to bear in support of the government's policy objectives.

Focus of the follow-up

1.20 In our follow-up review we asked, Have federal departments made adequate progress in implementing the recommendations of our 1999 audit? What has changed since then? Are there still "cracks in the foundation" of the government's work on assessing and monitoring toxic substances? Are there still obstacles to progress in the management of toxic substances? Have new concerns arisen since our original audit?

1.21 To assess the actions taken since 1999 by the six departments examined in that audit, we asked each for a progress report and supporting documents. During the audit we also requested additional information and documents. We reviewed the materials we received and interviewed officials of the departments to satisfy ourselves that the information provided to us was plausible. The scope of the 1999 audit and this follow-up covered existing substances. The introduction into commerce of new chemicals and pesticides is governed by separate legislative processes not included in the scope of the audit. (Additional information on the objective, scope, and approach of this follow-up review is provided in About the Follow-Up at the end of the chapter.)

1.22 A number of important changes have occurred in toxics management since our 1999 audit. For example, a bill proposing a new *Pest Control Products Act* was introduced in the House of Commons. In addition, Canada ratified the Stockholm Convention on Persistent Organic Pollutants (POPs). Perhaps most important, the new *Canadian Environmental Protection Act, 1999* (CEPA, 1999) came into force. CEPA, 1999 led to sweeping changes in federal activities, introducing new requirements and modifying existing ones. In effect, CEPA, 1999 introduced new ground rules for, among other things, priority substance assessments, the development of risk management controls, virtual elimination, and management of substances on Canada's Domestic Substances List.

1.23 Though not addressed in the original 1999 audit, our follow-up looked more closely at one of these changes, the requirement that Environment Canada and Health Canada categorize all substances on the Domestic Substances List (DSL)—around 23,000 substances. This categorization must be completed by 14 September 2006. The federal government is also required subsequently to assess or screen the substances identified through categorization and this may take a few decades to complete.

1.24 Environment Canada and Health Canada believe that the DSL categorization and screening exercise is an international precedent. According to Environment Canada, Canada is the first country in the world whose legislation requires a systematic review of all chemicals in commerce. Other countries and jurisdictions such as the Netherlands and the European Union are commissioning a similar exercise but have yet to develop legislation.

Observations

1.25 In response to the recommendations made in our 1999 audit, departments have been taking action to varying degrees and on a variety of fronts. Since our 1999 audit, departments have indicated to us that they have identified funding needs and sought new funding and that final decisions on funding by the federal government are still pending. The table that begins on page 25 lists our 1999 recommendations and our assessment of departments' progress against them.

Assessing the presence and risks of toxic substances

1.26 **An incomplete knowledge base.** The base of knowledge about the toxicity, effects, and risks of toxic substances is incomplete and still developing. There is good information on relatively few substances. For many substances currently in use, there are few data about toxicity, persistence, exposure, and effects. The risks may be insignificant—or they may be significant.

1.27 To identify and resolve the issues related to the presence of toxic substances, one of the federal government's key environmental challenges is to understand which substances pose a threat to people and our environment. It does this in three ways:

- conducting scientific research to understand threats to the environment, animals, plants, and human health;
- determining the presence and effects of toxic substances in the environment; and
- assessing the risks of specific chemicals.

Together, these analyses provide information to government scientists and policy makers that helps them identify and implement risk management controls to reduce the presence of toxic substances in the Canadian environment.

Better management of research activities

1.28 Improved consultation and co-ordination. One of our major concerns in 1999 was the degree of acrimony among the departments involved in research. Our follow-up found that scientists from different departments are co-ordinating their research efforts better. This has been due, in part, to activities under the Toxic Substances Research Initiative. In addition, officials from different departments have improved the sharing of information on their monitoring programs.

1.29 Research priorities established. In 1999 we noted that research priorities often were based more on the priorities of funding partners than on what was needed for the public good. Since then, Environment Canada, Fisheries and Oceans Canada, and Health Canada have identified and articulated their separate research priorities. Among their priorities, they all list research on toxic substances, such as sources and effects of endocrine-disrupting chemicals and persistent organic pollutants (POPs), or research in support of CEPA, 1999. Some of their projects have been funded under a $40 million Toxic Substance Research Initiative, which ended in March 2002. This may have an impact on collaborative work in the future.

1.30 Completion of gap analyses. In 1999 we found a lack of co-ordinated and integrated strategic leadership by key departments. We recommended that Environment Canada, Health Canada, Fisheries and Oceans Canada, and Natural Resources Canada each conduct an analysis of the gaps between their projected demands for scientific research and their existing capacity. Environment Canada and Fisheries and Oceans Canada have done this, and each has indicated that its gap analysis will help it pursue new funding initiatives and reallocate current staff to fill the identified gaps. Natural Resources Canada and Health Canada have yet to complete such an analysis.

Little improvement in measuring the presence and effects of toxic substances

1.31 Measuring the presence of toxic substances in the environment and their effects on life is crucial for determining our exposure to them, detecting changes over time, and assessing whether present actions to reduce exposure are effective.

Ambient monitoring Measuring the presence and levels of toxic substances in the environment (air, land, water and biota).

Effects monitoring Measuring the effects on organisms, populations or entire ecosystems that may be caused by various stresses, including toxic substances.

1.32 In 1999 we found that ambient monitoring was inconsistent and incomplete, even for priority industrial chemicals. Many parts of Canada had no monitoring stations for industrial chemicals or pesticides. Similarly, effects monitoring was a patchwork of various initiatives that, in our view, was disorganized and lacked focus.

1.33 Since our original audit, the Minister of the Environment has created the Task Force on the Canadian Information System for the Environment (CISE) to provide advice on the design and implementation of an environmental information system. In its October 2001 report, the CISE Task Force noted that the "gaps in environmental information are significant." Indeed, the report noted that Canada's performance in collecting, managing, assessing, and communicating environmental information is below that of many other countries. The CISE Task Force made many recommendations.

At the conclusion of our follow-up the government had not responded or committed to taking action, although Environment Canada reported that a response is being developed.

1.34 **Only marginal improvement since 1999.** Departments now meet more regularly, discuss some of the information on their monitoring programs, and discuss what actions they need to take. While there have been some new investments in monitoring since our 1999 audit, many priority substances in many parts of Canada are still not monitored.

Women of childbearing age and children in the Arctic are susceptible to the risks posed by contaminants in traditional or country foods. Fish and game, traditional foods, are contaminated by air-transported toxics.

1.35 Our current review raised a new concern: the lack of knowledge about levels of toxic substances found in the bodies of Canadians (for example, in human fat tissue, breast milk, blood, urine, and hair). This information could assist officials, physicians, policy makers, and regulators in identifying opportunities to reduce exposure and health risks. Currently, Health Canada has no program to evaluate this kind of information nationally, though it has done some regional studies of a few specific substances.

The process of assessing priority substances is not yet complete

1.36 The *Canadian Environmental Protection Act* (1988) introduced the Priority Substances Assessment Program, and elements of this program continue under CEPA, 1999. In this program, the ministers of the Environment and Health identify substances that will undergo priority assessment. The Act also requires both ministers to assess whether a substance is capable of becoming or is toxic under CEPA, 1999. This assessment process results in the release of an assessment report for public consultation. After public consultation has been completed and the comments received have been addressed, the ministers must publish a final decision and recommend to the Governor in Council whether to add the substance to the CEPA List of Toxic Substances. Legislated management controls for a substance can be put into place only when the Governor in Council has added the substance to the CEPA list.

1.37 In 1989, 44 substances or groups of substances were selected for priority assessment (commonly referred to as the first Priority Substances List or PSL1). In 1999 we reported that 25 of the assessed substances had been declared toxic under CEPA, and 6 had been declared not toxic. All of the substances declared toxic under CEPA except one (short chain chlorinated paraffins) were added to the CEPA List of Toxic Substances.

1.38 At the time of our 1999 audit, Environment Canada and Health Canada had been unable to reach a conclusion about the toxicity of 13 of the 44 PSL1 substances identified originally. These substances were high priorities by definition, and substantial amounts of public money had been spent to conduct the assessments. In our 1999 audit we recommended that the departments reach a formal conclusion on the toxicity of the substances and make the results available to the Canadian public.

1.39 Since then, new information and science have become available. According to Environment Canada, Health Canada and Environment Canada have updated the assessments of the 13 substances. At the conclusion of our follow-up, the updated assessments had not been publicly released.

1.40 In 1995, 25 additional substances or groups of substances were selected for priority assessments, which were scheduled for completion in December 2000. These substances constitute the second Priority Substances List or PSL2.

1.41 Our follow-up found that Environment Canada and Health Canada completed the assessments of 23 of the 25 substances on the PSL2 within the mandated timeframe. Assessment of the two remaining substances was suspended (under section 78 of CEPA, 1999) because new or additional information was needed to assess whether the substances were toxic or not.

1.42 Of the 23 substances assessed so far, the ministers have published a final decision on 19. The two ministers recommended 14 of those 19 substances for inclusion on the CEPA List of Toxic Substances; to date, the Governor in Council has added 5 of them to the list. Assessments of four substances have been published for public comment, but the ministers' final decisions on them have yet to be announced.

1.43 Why, after 13 years for PSL1 substances and 7 years for PSL2 substances, are there still substances without a final published decision? Our follow-up work indicates that the delays can be attributed to the lack of sufficient information to conclude on toxicity; the complexity of the decision-making and administrative processes; the time it took to interpret and implement the new requirements of CEPA, 1999; and the limits on the departments' resources.

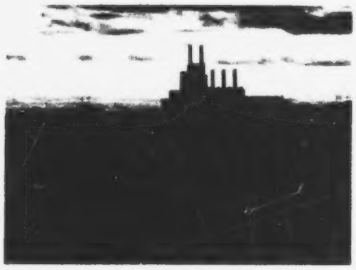
1.44 We are very concerned that it is taking so long to complete the assessments of these priority substances, many of which could be endangering the environment or human health. It is important that their assessment be completed so that management controls can be put in place.

Reducing the risks of toxic substances

1.45 **Assessing a substance for toxicity is only a first step.** Once a substance has been declared toxic under CEPA, 1999, a host of decisions need to be made. How can exposure be reduced? How should the use of the substance be controlled? What regulations or other measures (for example, pollution prevention plans or voluntary agreements) are needed? How will releases be measured and the effectiveness of management controls be measured and verified? Over the past three years, the government has made positive efforts in some key areas to improve the management of toxic substances. But it has not made enough progress in other essential areas.

Some management activities have improved

1.46 **Policy on the use of environmental performance agreements has been developed.** In 1999 we noted that the government was relying increasingly on voluntary initiatives to reduce industrial emissions of toxic substances. We found then that the process for determining whether or not to use voluntary initiatives was not robust, nor were the initiatives themselves. We recommended that Environment Canada develop a policy outlining the conditions under which voluntary initiatives could be used. We are encouraged that the Department now has such a policy, and that it includes all of the key components we recommended. It is too early to assess the policy's implementation but the development of performance objectives, measures, and timelines will be an important element of all agreements signed under it.

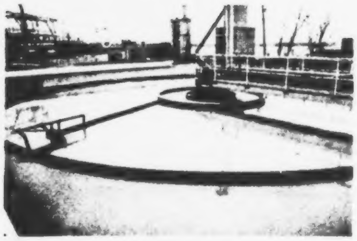


Chemical valley near Sarnia. Industry is a key source of chemical emissions to the environment.

1.47 At the time of the original audit, another initiative the federal government was using to achieve voluntary reductions was the Accelerated Reduction Elimination of Toxics (ARET) program. Environment Canada is currently redesigning ARET; at the end of our follow-up, it had not yet announced the new program.

1.48 **Improved tracking of releases of toxic substances.** The National Pollutant Release Inventory is the main vehicle through which Environment Canada is informed about releases of toxic substances. In 1999 we noted that the Department was not tracking 10 of the 25 toxic substances under CEPA as well as many other priority substances.

1.49 Since then, 105 substances have been added to the Inventory, and reporting thresholds for a few substances have been lowered. The additions include many substances that have been declared toxic under CEPA, 1999, and others whose toxicity is currently being assessed. Of the 52 substances on the CEPA List of Toxic Substances, 29 are monitored through the Inventory and four of them are not. The remaining 19 substances have not been added to the Inventory because their use is prohibited or because the substance is a compilation of several substances (for example, chlorinated wastewater effluents) and the NPRI is a point source inventory of only specific substances.



Municipal sewage effluents are an important source of contaminants in the environment, and municipal chlorinated wastewater effluents have been added to the CEPA List of Toxic Substances.

1.50 **The new toxics management process.** Managing toxic substances on the second priority list as well as other toxic substances follows a different methodology, the Toxics Management Process. This process satisfies many of our criticisms of the PSL1 process. Administered by Environment Canada and Health Canada, the Toxics Management Process is intended to assist in the development of management controls for identified key sources of emissions of toxic substances under CEPA, 1999.

Slow progress in implementing control measures for the first list of priority toxic substances

1.51 A variety of different types of management controls can be used to deal with substances declared toxic under CEPA, 1999. Some of these controls are legislated under CEPA, 1999 (such as regulations, pollution prevention plans, and codes of practice) while others are not (such as Canada-Wide Standards and voluntary initiatives by industry). Exhibit 1.4 illustrates the management controls in place for PSL1 toxic substances. Environment Canada reports that reductions in some substances have been achieved.

1.52 **Are risks from PSL1 toxic substances being managed?** Following the assessment of PSL1 substances and their designation as toxic in 1994 under CEPA, the federal government embarked on a series of consultations

(Strategic Options Processes) with stakeholders such as industry, environmental groups, and provincial governments to determine what actions were needed to reduce the risks to Canadians. In 1999, 9 of the 14 consultations had been completed, generating 52 separate recommendations. In 2002, all of the consultations had been completed and they achieved a consensus on 75 recommendations that ministers accepted for a range of actions by the federal government, provincial governments, and industry.

Exhibit 1.4 **How is the federal government managing PSL1 toxic substances?**

Of 25 substances on the first Priority Substances List that were declared toxic in 1994,

• 3 are subject to prohibitions	1,1,1-Trichloroethane
	Bis (chloromethyl) ether
	Chloromethyl methyl ether
• 9 are subject to various management controls	Benzene
	1,2-Dichloroethane
	Inorganic arsenic compounds*
	Inorganic cadmium*
	Inorganic fluorides*
	Oxidic-sulphidic and soluble inorganic nickel compounds*
	Polychlorinated dibenzo-para-dioxins
	Polychlorinated dibenzofurans
	Polycyclic aromatic hydrocarbons*
• 5 are being studied and/or monitored	3'3'-Dichlorobenzidine
	Bis (2-ethylhexyl) phthalate
	Effluents from pulp and paper mills using bleaching
	Refractory ceramic fibres
	Short chain chlorinated paraffins
• 5 are not subject to any management controls**	Benzidine
	Chlorinated wastewater effluents
	Dichloromethane
	Tetrachloroethylene
	Trichloroethylene

*Only one industrial source of the substance is managed through two codes of practice with the steel manufacturing sector.

**For some of these substances, a management control has been proposed.

In addition, recommendations for the design of wood preservation facilities address seven toxic substances emitted by that sector only (chromium, creosote-impregnated waste materials, hexachlorobenzene, inorganic arsenic compounds, polychlorinated dibenzo-para-dioxins, polychlorinated dibenzofurans, polycyclic aromatic hydrocarbons).

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• 5 are being studied and/or monitored	3,3' Dichlorobenzidine Bis (2-ethylhexyl) phthalate Effluents from pulp and paper mills using bleaching Refractory ceramic fibres Short chain chlorinated paraffins
• 5 are not subject to any management controls**	Benzidine Chlorinated wastewater effluents Dichloromethane Tetrachloroethylene Trichloroethylene

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Recommended actions include regulations, codes of practice, information gathering, and monitoring. We are concerned by the lack of implementation and oversight exercised over this process since then. As we noted in 1999, departments still have not estimated the resources they will need to implement the recommendations. In addition, the implementation status of the recommendations from the Strategic Options Process for toxic substances on PSL1 is unclear. Environment Canada tracks the status of the actions under its direct control and responsibility, such as regulations and codes of practice. However, its knowledge of actions taken by industry and other stakeholders is weaker.

1.53 The following seven industry sectors are major emitters of nine PSL1 toxic substances: coal-fired power generation, solvent degreasing, base metal smelting, metal finishing, dry cleaning, municipal wastewater treatment plants, and aluminum smelters. The federal government has not yet put in place management controls for these sectors (Exhibit 1.5). There is no process for measuring to what extent the actions taken so far on other toxic substances have reduced the risks; data on emission reductions are still not collected systematically or reported publicly.

Still no federal management controls in place for trichloroethylene

Trichloroethylene (TCE) is a toxic substance under CEPA, 1999 used as a degreasing solvent, in dry cleaning, and as an ingredient in adhesives. It can be found in household products such as paint removers, typewriter correction fluids, adhesives, spot removers, and rug cleaning fluids. TCE has been classified as "probably carcinogenic to humans" and may constitute a danger to human life or health in Canada.

Chronology of federal action in the solvent degreasing sector

1989	TCE put on Priority Substances List and assessment initiated.
1993	Priority Substance Assessment Report completed. Substance declared toxic under CEPA.
1994	Strategic Option Process consultation established in the solvent degreasing sector.
1997	Strategic Options Process completed. Regulation recommended.
2000	Trichloroethylene added to the CEPA list of toxic substances.
2002	Nine years after TCE was declared toxic, no federal management instruments are in place.

Substances on the second priority list will be managed through a new process

1.54 Currently, as noted in paragraph 1.42, five substances on the second priority list are on the CEPA List of Toxic Substances. Toxic substances from the PSL2 will be managed through a new process, the Toxics Management Process. At the conclusion of our follow-up, one risk management strategy for a toxic substance on the list had been issued for consultation. However, because this process is in its early stages it is too early to comment on the status of its implementation.

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Assessing the Domestic Substances List

Many substances to be managed in the future

1.55 **Categorization, a process under way.** The *Canadian Environmental Protection Act, 1999* requires that Environment Canada and Health Canada categorize all substances on the Domestic Substances List, a list of close to 23,000 substances that were in commercial use in Canada between 1984 and 1986. Many of the substances are still used commercially. Health Canada is currently identifying additional substances (over 1,700 at present) under the *Food and Drugs Act* that were not on the original list and will have to be added. Environment Canada and Health Canada are required to categorize all of these substances by 14 September 2006, including any new ones identified by Health Canada. Substances introduced into Canada since 1986 have been and continue to be assessed through other processes under CEPA, 1999 and were not addressed in this audit.

1.56 The substances on the Domestic Substances List will be categorized to determine which ones will require an assessment or screening—because they represent the greatest potential exposure for Canadians or are persistent or bioaccumulative and inherently toxic to human beings or non-human organisms (Exhibit 1.6). Environment Canada and Health Canada are developing approaches to categorizing different types of substances (for example, organic and inorganic). The departments believe they will meet the 14 September 2006 deadline.

Did you know?

[illegible] about 23 000

- [illegible] over 1 700
- [illegible] up to 4 000
- [illegible] a few decades

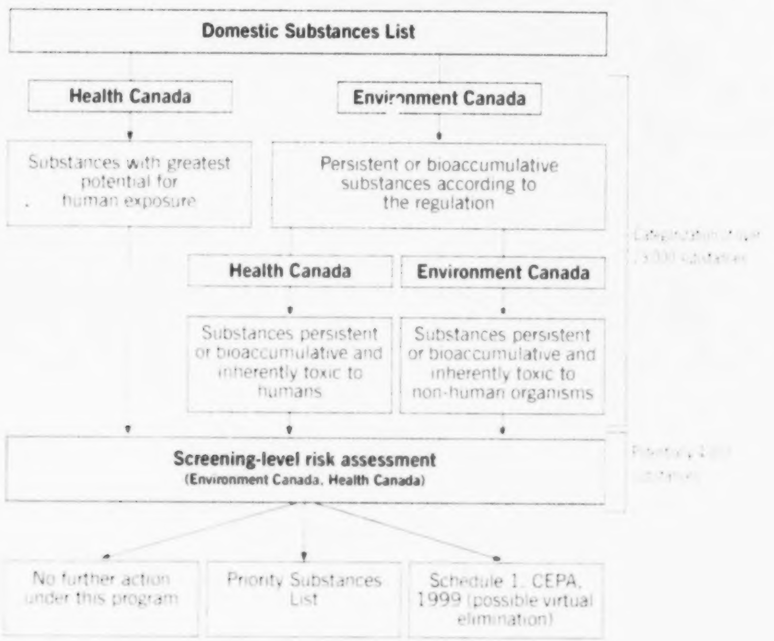
1.57 **Screening—A challenging and potentially lengthy process.** Following categorization, some of the substances will require an assessment or screening. Screening will indicate whether a substance requires no further action; is toxic under CEPA, 1999 and should be added to the CEPA List of Toxic Substances; or is added to the Priority Substances List. Up to 4,000 substances on the Domestic Substances List may ultimately have to be screened.

1.58 Mandated under CEPA, 1999, this step does not have a deadline. At this point it is uncertain how long the process will take; it may take a few decades to complete. It is a significant challenge, recognizing that it stems from over 60 years of intensive growth in the commercialization of chemicals globally without any pre-market assessment of risks to the environment and human health.

1.59 It is too early to speculate how many chemicals on the Domestic Substances List are likely to be declared toxic under CEPA, 1999. The number may exceed the total arrived at in the past 25 years, and all of these substances will have to be managed in addition to those being managed today.

1.60 In 1999, we raised concerns about the growing gap between the demand on departments to assess and manage substances and a federal infrastructure increasingly ill-equipped to meet it. Given the slow progress in assessing and managing the current list of substances and the magnitude of the task ahead, we still have the same concerns.

Exhibit 1.6 **Categorizing and screening substances on the Domestic Substances List**


Domestic Substances List
Health Canada
Environment Canada
Substances with greatest potential for human exposure
Persistent or bioaccumulative substances according to the regulation
Health Canada
Environment Canada
Substances persistent or bioaccumulative and inherently toxic to humans
Substances persistent or bioaccumulative and inherently toxic to non-human organisms
Categorization of over 23,000 substances
Screening-level risk assessment (Environment Canada, Health Canada)
Potentially 4,000 substances
No further action under this program
Priority Substances List
Schedule 1, CEPA, 1999 (possible virtual elimination)

The precautionary principle: how can it be applied?

1.61 In assessing the many substances on the Domestic Substances List and managing those substances identified as toxic under CEPA, 1999, one of the key hurdles facing departments will be the lack of information on many substances (for example, on their toxicity). To assess and ultimately manage the potential risks, the government is committed to applying the precautionary principle. Specifically, under CEPA, 1999 the government is to "exercise its powers in a manner that protects the environment and human health, applies the precautionary principle that, where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation...."

1.62 **Some progress on the precautionary principle.** In 1999 we noted that the federal government had failed to develop a clear and consistent interpretation of the precautionary principle and its application to toxic substances.

1.63 Since then, CEPA, 1999 has come into force. It entrenches the precautionary principle in the preamble to the Act and imposes a general duty on the Government of Canada to administer the Act in a way that applies the precautionary principle. The Act also specifically requires in section 76.1 that the principle and a "weight of evidence approach" be applied when conducting and interpreting the results of activities carried out under that section, such as screening assessment. Environment Canada has started to develop guidance to implement these CEPA, 1999 obligations. In addition, under the direction of the Privy Council Office, the government has been developing a common view of the precautionary approach principle and how it will be applied. This exercise is intended to apply to all federal legislation and programs, not just those under CEPA, 1999. Departments have consulted with the public, and the government intends to finalize the federal framework for applying the precautionary approach principle.

1.64 However, we are concerned that even though the precautionary principle is a key element of assessing and managing toxic substances, there are still no guidelines on its use under CEPA, 1999. In our opinion, given the 23,000 or more substances that will have to be assessed to varying degrees under CEPA, 1999 and the lack of information on many of them, the lack of concrete operational guidance governing the precautionary principle is worrisome. We urge the federal government to complete both exercises soon.

Toxic Substances Management Policy: Largely abandoned?

1.65 In 1995 the federal government introduced a major policy framework, the Toxic Substances Management Policy. The policy sets two fundamental management objectives:

- virtual elimination from the environment of toxic substances that are persistent (they take a long time to break down in the environment), bioaccumulative (they collect in living organisms and end up in the food chain), and primarily the result of human activity (Track 1 substances); and

- management of other toxic substances and substances of concern throughout their entire life cycles to prevent or minimize their release into the environment (Track 2 substances).

1.66 The Toxic Substances Management Policy was intended to apply to all areas of federal responsibility. In 1999 we were seriously concerned that federal departments were not fully implementing the policy. Several departments had not developed plans and strategies to apply the policy to specific substances or to their own operations. Since our audit, some of the key elements of the policy have been incorporated into CEPA, 1999. Today, it still is not clear how committed individual departments are to applying the policy in their programs and to measuring and reporting their progress. In our view, the policy has been largely abandoned by key departments.

1.67 **Is it achieving the virtual elimination of substances that are most toxic?** Under the Toxic Substances Management Policy of 1995, 12 substances met the criteria for virtual elimination (Track 1 substances). Eight of those are pesticides no longer registered in Canada; the four remaining substances are currently subject to various management controls. In 1999 we found that departments had failed to define even short-term, incremental steps toward virtual elimination. Departments were mired in conflict over the meaning of virtual elimination.

1.68 The concept of virtual elimination has now been enshrined in CEPA, 1999. Virtual elimination is the ultimate reduction of a substance released into the environment to below the level of quantification specified by the ministers of Environment and Health. CEPA, 1999 also establishes a formal Virtual Elimination List and specific obligations for the ministers of the Environment and Health in dealing with a substance identified for virtual elimination.

1.69 Currently, there are no substances on the CEPA Virtual Elimination List. One substance from the second Priority Substances List (hexachlorobutadiene) has been identified as a candidate for virtual elimination. With regard to the four original non-pesticide Track 1 substances, it is Environment Canada's position that while these substances are not on the CEPA Virtual Elimination List, they are managed as Track 1 substances, in a manner consistent with the Toxic Substances Management Policy.

1.70 Environment Canada has been developing levels of quantification (or detection) limits for these four substances, however, at the conclusion of our follow-up this process was not complete. It is not clear whether the existing or proposed management controls on these substances will eventually achieve these levels of quantification.

[illegible]

1.71 Managing pesticides is very different from controlling emissions of toxic industrial chemicals. Pesticides are not by-products of a manufacturing or production process. Rather, pesticides are designed to be toxic to pests. They are purposely applied to farmlands that grow the food we eat and export; to our forests; and to the lawns, parks, and green spaces we enjoy in our communities. However, some pesticides have been linked to cancer, reproductive disorders, skin irritations, respiratory tract problems, and other illnesses.

1.72 All products used, sold, or imported in Canada that are designed to manage, destroy, attract, or repel pests are regulated by Health Canada's Pest Management Regulatory Agency through the *Pest Control Products Act* (PCPA). The products include chemicals, devices, and even organisms, and are referred to collectively as pest control products or simply pesticides.

1.73 Key activities of the Agency include evaluating potential pesticides for registration in Canada; re-evaluating existing pesticides for continued registration in Canada; developing and implementing policies and guidelines on pest management; disseminating information on pest management; and enforcing compliance with the PCPA. Although the products are regulated by the federal government, the actual use of pesticides is regulated by the provinces and territories. The current Act is over 30 years old; at the end of our follow-up, a bill proposing a new PCPA had been introduced in the House of Commons.

Agriculture is the primary user of pesticides in Canada.

1.74 In 1999 we reported significant shortcomings in the Agency's activities. Overall, our follow-up found that the Agency has made limited progress on the recommendations we had addressed to it.

1.75 **Improved co-operation among departments.** The Pest Management Regulatory Agency is the lead federal agency for pesticide registration. Fisheries and Oceans Canada and Environment Canada both conduct their own pesticide research. In 1999 we noted that the Agency had gained a reputation as a "closed shop" and was perceived not to welcome input from other federal departments. In 1998 it had signed an interdepartmental agreement with Environment Canada to improve communication and clarify respective roles and responsibilities in the exchange and use of scientific information. We noted in 1999 that very little exchange of information had begun. The agreement the Agency was negotiating with Fisheries and Oceans Canada had not been signed by the end of our audit. Since then, the Agency has begun to share information with Environment Canada and it now has a signed agreement with Fisheries and Oceans Canada.

1.76 Based on our review and findings, many aspects of the federal government's management of pesticides are still of serious concern to us. We therefore intend to conduct an in-depth audit and report on it to Parliament in fall 2003.

1.77 **Is there a policy on pesticide risk reduction?** When the Pest Management Regulatory Agency was established in 1995, it was directed to develop a pesticide risk reduction policy for all sectors of pesticide use. The policy could then guide the Agency's activities in registering new pesticides, re-evaluating existing pesticides, and monitoring their use. In 1999 we noted that no such policy had been established. There is still no policy, after seven years.

1.78 **Little progress in re-evaluating existing pesticides.** There are over 550 active ingredients in the 5,892 pesticides registered for use in Canada. Of these, over 300 were approved before 1981 and over 150 before 1960, when conditions placed on their use were less stringent than they are today and perhaps below current standards of health and safety in pesticide use. In 2001, the Agency committed to re-evaluate 405 of those active ingredients by 2006. The evaluation of many of these has been going on for years. Of the 49 re-evaluations begun prior to March 2002, we found that only 17 have been completed or discontinued. Quite simply, progress has been slow (see the case study on chromated copper arsenate, on page 22).

1.79 **No database on pesticide sales.** Data on pesticide sales are one of the primary tools for tracking the amounts and types of pesticides used in Canada and released into the environment. This information is needed to monitor the risks to health, safety, and the environment, and to measure the extent to which lower-risk pesticides and non-pesticide alternatives are being adopted. Canada is one of the few member countries of the Organisation for Economic Co-operation and Development (OECD) that lack a sales database. In 1999 we recommended that the Agency meet its commitment to establish a national pesticide sales database. The Pest Management Regulatory Agency committed to developing and implementing such a database by 2001.

1.80 Since 1999, the Agency has undertaken a number of activities including the pilot testing of data collection methods. However, the Agency

does not have a database on pesticide sales that it can use to help monitor the risks to health, safety, and the environment. Until such a database exists, Canada will remain one of the few countries with little knowledge of the volumes of pesticides used within its borders.

A long and unfinished re-evaluation process

This case of wood treated in Canada with chromated copper arsenate (CCA) illustrates the slow process of pesticide re-evaluation.

Pressure treated wood containing CCA is currently sold in Canada and used to build some things like outdoor decks and playground structures. A wood preservative containing arsenic, chromium, and copper, CCA protects wood from attacks by fungi and insects. There are growing concerns about its impact on human health and the environment as a result of leaching, especially when it is used around homes and in schools and playgrounds. The chronology of action on this pesticide is as follows:

1989 Priority Substances List 1 established under the Canadian Environmental *Protection Act* included compounds of arsenic and inorganic chromium, components of CCA.

1992 Re-evaluation of CCA initiated by the Department of Agriculture. Responsibilities were transferred to the Pest Management Regulatory Agency (PMRA) in 1995.

1994 Priority substance assessments by Environment Canada and Health Canada completed and compounds of arsenic and chromium determined to be toxic under CEPA.

Start of Strategic Options Process consultation with the wood preservation industry.

1999 Hexavalent chromium and inorganic arsenic added to the CEPA list of toxic substances.

Commissioner's 1999 audit found ambiguity between the PMRA and Environment Canada over which organization would lead the initiative with the industry to control the use of CCA and other heavy-duty wood preservatives.

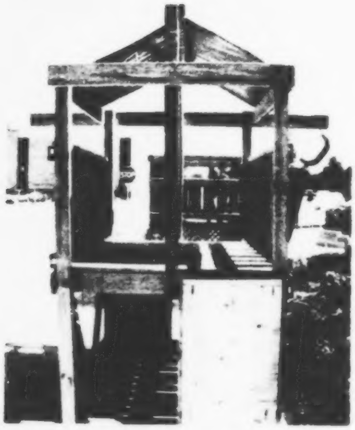
Strategic Options Process Consultation completed, led to a report with recommendations directed toward industry (e.g. product labelling program). Specific regulations not recommended.

2002 February 22 — United States Environmental Protection Agency (US EPA) reached a voluntary agreement with registrants of affected CCA products to discontinue the use of arsenic-based preservatives. Effective December 31, 2003 all distribution, sale, and use of existing stocks of affected CCA manufacturing-use and end-use products will be unlawful under the *Federal Insecticide Fungicide and Rodenticide Act*. After this date, CCA products may only be used for the preservative treatment of forest products and in accordance with the 2001 edition of the American Wood Preservers Association Standards.

March 28 — Temporary registration of alternatives to CCA, ACQ (amine) and copper azole, accepted by the PMRA.

April 3 — PMRA announced an agreement with Canadian manufacturers to make a transition away from the use of CCA in treated lumber for the residential market by 31 December 2003, while retaining full industrial use.

Re-evaluation of wood preservatives not concluded at the time of our follow-up. No decision by the PMRA on the safety of CCA.



Children could be exposed to arsenic and chromium leaching from playground structures constructed out of CCA pressure treated wood.

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1989 Priority Substances List 1 established under the *Canadian Environmental Protection Act* included compounds of arsenic and chromium, components of CCA.

1992 Re-evaluation of CCA initiated by the Department of Agriculture. Responsibilities were transferred to the Pest Management Regulatory Agency (PMRA) in 1995.

1994 Priority substance assessments by Environment Canada and Health Canada completed and compounds of arsenic and chromium determined to be toxic under CEPA.

Start of Strategic Options Process Consultation with the wood preservation industry.

1999 Hexavalent chromium and inorganic arsenic added to the CEPA list of toxic substances.

Commissioner's 1999 audit found acrimony between the PMRA and Environment Canada over which organization would lead the discussion with industry to control the use of CCA and other heavy-duty wood preservatives.

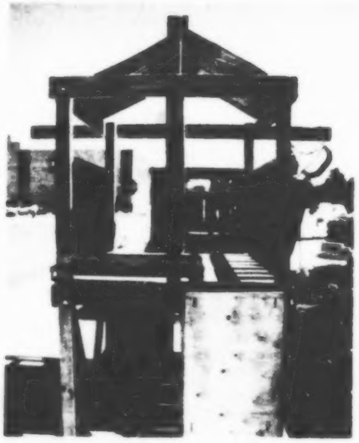
Strategic Options Process Consultation completed, led to a report with recommendations directed toward industry (e.g., product labelling program). Specific regulations not recommended.

2002 February 22—United States Environmental Protection Agency (US EPA) reached a voluntary agreement with registrants of affected CCA products to discontinue the use of arsenic-based preservatives. Effective December 31, 2003 all distribution, sale, and use of existing stocks of affected CCA manufacturing-use and end-use products will be unlawful under the *Federal Insecticide Fungicide and Rodenticide Act*. After this date, CCA products may only be used for the preservative treatment of forest products and in accordance with the 2001 edition of the American Wood Preservers' Association Standards.

March 28—Temporary registration of alternatives to CCA, ACQ (amine), and copper azole, accepted by the PMRA.

April 3—PMRA announced an agreement with Canadian manufacturers to make a transition away from the use of CCA in treated lumber for the residential market by 31 December 2003, while retaining full industrial use.

Re-evaluation of wood preservatives not concluded at the time of our follow-up. No decision by the PMRA on the safety of CCA.



Children could be exposed to arsenic and chromium leaching from playground structures constructed out of CCA pressure treated wood

Conclusion

1.81 In 2002 we visited the departments we had audited in 1999 and assessed their progress in implementing our 27 recommendations from that audit. This follow-up has found mixed progress. Although the federal government has made some progress in managing toxic substances since 1999, its ability to detect, understand, and prevent the harmful effects of toxic substances is still limited.

1.82 Over the past three years, the government has taken action on many fronts. We see less acrimony and more co-operation among departments. Research priorities have been established, and most of the departments we reviewed have identified the gaps between their demand for scientific research and the resources they have available. A new policy has been developed to guide decisions about when to use voluntary instruments and what they should include. Environment Canada is tracking releases of over 100 more substances than it was in 1999.

1.83 However, the federal government has not published a final conclusion on the toxicity of 13 of those 44 substances that were put on the first Priority Substances List in 1989. It has committed few additional resources to measuring the presence of toxic substances in the environment or their effects on plants, animals, and human beings. There has been limited progress on developing and implementing management controls to mitigate the release of toxic substances.

1.84 The government has made only limited progress in addressing our 1999 recommendations on pesticides.

1.85 To us, the whole situation is confounding. The processes we observed seem to defy timely, decisive, and precautionary action. Many of the root causes of problems we found in 1999 continue today: underresourced commitments; major gaps in scientific knowledge; and burdensome regulatory processes. None of this augurs well for the protection of our health. Sustainable development offers the hope of a new approach to managing the risks posed by toxic substances. In our opinion, the current situation and future prospects are not environmentally, economically or socially acceptable. Our children may have to finish the job of assessing, and certainly managing, toxic substances in use today.

Departments' joint response

[illegible]

Matters We Will Investigate

1.86 We have not made any new recommendations in this follow-up audit, since many of the important activities that are needed are already under way in the federal government. However, considering the seriousness of the threat that toxic substances may pose to human health and the environment and the limited progress we found in some important areas, our Office will conduct additional follow-up work and audits of this area in the future. We will examine progress in addressing selected matters raised in our 1999 audit and in this follow-up, focussing on areas where performance has been especially weak and progress limited. In addition, we will expect to see in the future that departments have done the following:

- Developed, implemented, and measured the effectiveness of risk reduction actions for the major sources of release and exposure of priority toxic substances.

- Demonstrated the relevance of the Toxic Substances Management Policy and clarified its application.

- Developed detailed operational guidance on applying the precautionary principle to the assessment and management of toxic substances under CEPA, 1999.

- Considered and used the full range of available legislative authorities and policy instruments to address toxic substances and other substances of concern.

- Ensured that the most problematic substances are fast-tracked through the assessment and risk management processes.

Managing toxic substances: Departments' progress on 1999 audit recommendations, May 1999 Report of the Commissioner of the Environment and Sustainable Development

Chapter 3, Understanding the Risks From Toxic Substances, Cracks in the Foundation of the Federal House		Departmental progress							Federal government's overall progress	
Recommendation		AAFC	NRCan	F&O	HC	PMRA	EC	IC		Comments
	Overarching concerns									
3.70	Environment Canada, Health Canada, Natural Resources Canada and Fisheries and Oceans should each conduct an analysis of gaps between projected demands for scientific research on toxic substances (including the need for new scientific methods, skills and expertise) and existing departmental capacity			●			●			F&O and EC demonstrated the completion of a gap analysis.
	and subsequently use this information to assess federal gaps overall.									Departments have yet to combine their efforts for federal gap analysis.
	Mobilizing capacity: Weak interdepartmental co-ordination of research									
3.86	Environment Canada, Health Canada, Agriculture and Agri-Food Canada, Natural Resources Canada and Fisheries and Oceans should better integrate and collaborate on research related to toxic substances at a strategic, interdepartmental level. For collaborative work, departments should identify common needs and priorities, define their respective roles, accountabilities and resources, implement action plans and report results. Departments should take into account the need to integrate such work with other research activities related to health and the environment and to ensure effective communication between science and policy sectors.	◓	◓	◓	◓		◓		◓	Interdepartmental collaboration on toxic substances research has improved through Toxic Substances Research Initiative. Overall federal action plan still required.
3.92	Environment Canada and the Pest Management Regulatory Agency should forthwith implement the provisions of their memorandum of understanding. They should plan and set priorities for research and monitoring, exchange results, consider these results during regulatory decision-making processes and report the results of these actions on a scheduled basis.									Memorandum of Understanding required a review in 2000. To date a final updated version is not complete.

● Completed ◓ Satisfactory progress Limited progress

Agriculture and Agri-Food Canada (AAFC), Environment Canada (EC), Fisheries and Oceans Canada (F&O), Health Canada (HC), Industry Canada (IC), Natural Resources Canada (NRCan), Pest Management Regulatory Agency (PMRA)

Chapter 3, Understanding the Risks From Toxic Substances, Cracks in the Foundation of the Federal House	Departmental progress							Federal government's overall progress	
Recommendation	**AAFC**	**NRCan**	**F&O**	**HC**	**PMRA**	**EC**	**IC**		**Comments**
3.94 Fisheries and Oceans and the Pest Management Regulatory Agency should proceed forthwith to plan and set priorities for research and monitoring, exchange results, consider these results during regulatory decision-making processes and report the results of these actions on a scheduled basis.			◓		◓			◓	Memorandum addressing this recommendation was signed in 2001.
Shortfalls in ambient and effects monitoring									
3.114 Environment Canada, Fisheries and Oceans, Health Canada (including the Pest Management Regulatory Agency) and Natural Resources Canada should, together with other partners, identify current and projected needs regionally and nationally for ambient and effects monitoring of priority industrial chemicals and pesticides, based on program and policy objectives.		◓	◓	◓		◓		◓	Departments participated on the Task Force on Canadian Information System for the Environment (CISE). Monitoring needs identified for chemicals and pesticides were general and sporadic.
3.115 The departments should develop and maintain a co-ordinated inventory of current ambient and effects monitoring programs, including existing sites, species, substances and parameters measured. The inventory should be used to determine gaps relative to identified needs and objectives.			◓			◓			EC and F&O demonstrated departmental inventories. No co-ordinated inventory exists.
3.116 The departments should collaborate on establishing and maintaining a nationally integrated ambient monitoring system for air and water that is based on identified needs and program and policy objectives. They should also develop and implement a long-term strategy for a nationally co-ordinated environmental effects monitoring program, building upon current industry sector and regional initiatives.									No integrated ambient monitoring system exists.
3.117 The departments should consider and evaluate options to extend the "polluter pays" principle to ambient and effects monitoring.						◓		◓	Program exists to implement principle for industry effluents. Limited sector involvement to date.

● Completed ◓ Satisfactory progress Limited progress

Agriculture and Agri-Food Canada (AAFC), Environment Canada (EC), Fisheries and Oceans Canada (F&O), Health Canada (HC), Industry Canada (IC), Natural Resources Canada (NRCan), Pest Management Regulatory Agency (PMRA)

Chapter 3, Understanding the Risks From Toxic Substances, Cracks in the Foundation of the Federal House Recommendation	Departmental progress AAFC	NRCan	F&O	HC	PMRA	EC	IC	Federal government's overall progress	Comments
Using information to assess risks									
3.128 Environment Canada and Health Canada should forthwith reach a formal conclusion on the toxicity of the 13 substances for which they have not yet done so. The results should be made available to the Canadian public and should provide a clear rationale for the designation of the substances as either toxic or non-toxic under the *Canadian Environmental Protection Act*, bearing in mind the government's commitment to the precautionary principle.									Progress in assessments have been observed. Results not available to the public. Final conclusion not announced.
3.131 Environment Canada and Health Canada should develop a process for incorporating new information and reconsidering decisions taken on substances previously assessed under the *Canadian Environmental Protection Act*. This process should define roles, accountabilities, timelines, decision criteria and procedural steps.									Progress was not demonstrated.
3.141 The Pest Management Regulatory Agency should develop and implement a program of re-evaluation of pesticides presently registered for use in Canada. This program should identify priorities and a schedule for completion. Priorities should be determine in consultation with other government departments, including Environment Canada, Health Canada, Natural Resources Canada and Fisheries and Oceans, as well as other stakeholders.									A pesticides re-evaluation program has been developed. Of 405 re-evaluations of pesticide active ingredients, 17 completed or discontinued.
3.142 The Pest Management Regulatory Agency should develop and document the processes to be followed for pesticide re-evaluations and special reviews. The processes should include a clear definition of responsibilities, timelines and reporting, and should clarify the roles of federal science-based departments in ensuring that the findings of ongoing Canadian research and monitoring are reflected in regulatory assessments. The process for special reviews in particular should identify the conditions that will trigger a review.									Elements of documented re-evaluation process are incomplete.

● Completed ◒ Satisfactory progress Limited progress

Agriculture and Agri-Food Canada (AAFC), Environment Canada (EC), Fisheries and Oceans Canada (F&O), Health Canada (HC), Industry Canada (IC), Natural Resources Canada (NRCan), Pest Management Regulatory Agency (PMRA)

Chapter 4. Managing the Risks of Toxic Substances: Obstacles to Progress	Departmental progress							Federal government's overall progress	Comments
Recommendation	AAFC	NRCan	F&O	HC	PMRA	EC	IC		
Implementing the key policies									
4.53 Environment Canada, Health Canada and the Pest Management Regulatory Agency should identify specific substances subject to life cycle management, including CEPA-toxic equivalents and other substances of concern. Each should develop and apply strategies for life cycle management by substance, sector and/or region.				◓	◓	◓		◓	Substances identified; limited progress in developing and applying strategies.
4.54 Federal departments, including Health Canada, Fisheries and Oceans, Industry Canada and Natural Resources Canada, should each develop a plan for implementing the Toxic Substances Management Policy. Each plan should explicitly recognize and build upon the expertise and capabilities of the department, be consistent with the plans of other departments, and include clear statements of departmental accountability, specific goals and milestones.									Implementation plans were still in draft form and/or were missing or weak in key elements.
4.59 Industry Canada should ensure that its core industry sector programs related to industrial innovation and technology development reflect the government's commitment to pollution prevention. It should commit itself to specific objectives, activities, and timelines for enhancing the principles of pollution prevention within industry, large and small.									Progress was not demonstrated.
Turning words into action: Managing industrial chemicals									
4.82 Environment Canada and Health Canada should exercise greater leadership by defining objectives for reducing the risk of industrial chemicals to public health and the environment and by ensuring that risk management options are developed to achieve these objectives.									Link between risk management objectives, reduction in risks, and management options not demonstrated.
4.83 Environment Canada and Health Canada should develop plans to implement recommended risk management measures for substances declared toxic under the *Canadian Environmental Protection Act* (CEPA) before such recommendations are presented to ministers. These plans should include measurable targets, specific timetables, resource estimates and funding sources.									Plans to implement recommendations for PSL1 toxic substances were not demonstrated. Environment Canada has indicated that management strategies for PSL2 substances will address this recommendation.

● Completed ◓ Satisfactory progress Limited progress

Agriculture and Agri-Food Canada (AAFC) Environment Canada (EC) Fisheries and Oceans Canada (F&O) Health Canada (HC) Industry Canada (IC) Natural Resources Canada (NRCan) Pest Management Regulatory Agency (PMRA)

Chapter 4. Managing the Risks of Toxic Substances: Obstacles to Progress	**Departmental progress**							**Federal government's overall progress**	
Recommendation	**AAFC**	**NRCan**	**F&O**	**HC**	**PMRA**	**EC**	**IC**		**Comments**
4.84 The roles and responsibilities for implementing recommended risk management measures for substances declared toxic under CEPA should be clearly defined for Environment Canada, Health Canada, Industry Canada, Natural Resources Canada, and other departments. These roles and responsibilities should capitalize on the expertise and capacities of each department.				◓		◓		◓	EC and HC have articulated their roles and responsibilities.
4.105 Environment Canada, in consultation with other participating departments, should develop a policy outlining conditions necessary for using voluntary initiatives. Before renewing a voluntary initiative, Environment Canada should evaluate its contribution toward the government policy objectives of pollution prevention and life cycle management.						●		●	Policy completed and outlines conditions necessary for using voluntary initiatives.
4.106 If Environment Canada chooses to use voluntary initiatives to manage voluntary initiatives to manage priority substances, including CEPA toxic substances and others, it should establish rigorous requirements for them. At a minimum, these initiatives should include: clearly identified environmental objectives; the release levels that exist at the beginning of the agreement; measurable targets with timelines; release or performance measures; clearly defined roles and responsibilities; consequences for failing to meet targets and rewards and recognition for achieving them; a reporting requirement and provision for credible verification; and regulator evaluation of the initiative to determine progress and consider whether corrective action is necessary.						◓		◓	Requirements established; however, it is too early to assess whether policy has been fully implemented.
4.107 If Environment Canada uses voluntary initiatives to manage toxic substances not identified as priorities, it should encourage industry sectors, associations and individual companies to also adopt the same requirements as indicated above.						◓		◓	Commitment made; however it is too early to assess the status of implementation.

● [illegible] ◓ [illegible]

Agriculture and Agri-Food Canada (AAFC), Environment Canada (EC), Fisheries and Oceans Canada (F&O), Health Canada (HC), Industry Canada (IC), Natural Resources Canada (NRCan), Pest Management Regulatory Agency (PMRA)

Chapter 4. Managing the Risks of Toxic Substances: Obstacles to Progress	Departmental progress							Federal government's overall progress	
Recommendation	AAFC	NRCan	F&O	HC	PMRA	EC	IC		Comments
Improvements needed in the management of pesticides									
4.119 The Pest Management Regulatory Agency, in consultation with other federal departments, including Environment, Health, Fisheries and Oceans, and Natural Resources, should establish a risk reduction policy for managing pesticides. Among other things, the policy should reflect commitments in the federal government's Pollution Prevention Strategy and the Toxic Substances Management Policy. The risk reduction policy's objectives should be reflected in the registration of new pesticides, the re evaluation and special review of existing pesticides, and all Agency programs for the promotion of alternatives, including integrated pest management.									No final pesticide risk reduction policy has been published and implemented.
4.120 The Pest Management Regulatory Agency should develop and implement, in conjunction with the provinces, a national pesticides risk reduction strategy for Canada.									A strategy for lawn care pesticides has been developed. No overall national pesticide risk reduction strategy has been developed and implemented.
4.127 Fisheries and Oceans, together with Environment Canada and the Pest Management Regulatory Agency, should develop a policy on sustainable aquaculture that addresses, among other things, the use of pesticides and other products in aquaculture as well as the role of integrated pest management.									An Aquaculture Policy Framework was published. It does not directly address pesticides or the role of integrated pest management.
4.128 The Agency should ensure that its pesticide registration decisions do not create conflicts with other federal legislation, including but not limited to the *Fisheries Act*. Where such conflicts may arise, the Agency should exchange scientific and/or policy advice with other departments before registration decisions are taken.					N.A.*			N.A.	

● Completed ◓ Satisfactory progress Limited progress

*N.A. Status of progress is unknown or information is not available

Agriculture and Agri Food Canada (AAFC), Environment Canada (EC), Fisheries and Oceans Canada (F&O), Health Canada (HC), Industry Canada (IC), Natural Resources Canada (NRCan), Pest Management Regulatory Agency (PMRA)

Chapter 4, Managing the Risks of Toxic Substances: Obstacles to Progress	Departmental progress							Federal government's overall progress	
Recommendation	AAFC	NRCan	F&O	HC	PMRA	EC	IC		Comments
Inadequate tracking of toxic releases and pesticides									
4.134 Environment Canada should ensure that releases of priority toxic substances are reliably monitored and reported through either the National Pollutant Release Inventory or other means, where that would be more appropriate.						◓		◓	105 additional substances or groups of substances added to NPRI. Other substances still to be monitored.
and should periodically publish progress made toward achieving release reduction targets.									Limited published data available on trends.
4.138 The Pest Management Regulatory Agency should meet its commitment to establish a national database of pesticide sales in order to monitor the use of pesticides and gauge the effectiveness of risk reduction activities.									No database exists that is being used by the PMRA. Activities have been undertaken to develop a database (for example, data pilot testing).

Agriculture and Agri-Food Canada (AAFC), Environment Canada (EC), Fisheries and Oceans Canada (F&O), Health Canada (HC), Industry Canada (IC), Natural Resources Canada (NRCan), Pest Management Regulatory Agency (PMRA)

● **Completed** Corrective action has been fully implemented.

◓ **Satisfactory progress** Progress is being made at a satisfactory pace.

Limited progress Some progress is being made, but the pace or scope is not satisfactory.

About the Follow-Up

Objective

The objective of this follow-up review was to provide a status report on the progress made by six federal departments (Environment Canada, Health Canada, Industry Canada, Natural Resources Canada, Fisheries and Oceans Canada, and Agriculture and Agri-Food Canada) and the Pest Management Regulatory Agency in addressing the 27 recommendations in chapters 3 and 4 of the 1999 Report of the Commissioner of the Environment and Sustainable Development to the House of Commons. In addition, we endeavoured to include the effects of changes to the *Canadian Environmental Protection Act, 1999* as they relate to our 1999 audit findings.

Scope and approach

To assess the federal government's progress in addressing the 27 recommendations, we asked for progress reports and supporting documentation from six federal departments (Environment Canada, Health Canada, Industry Canada, Natural Resources Canada, Fisheries and Oceans Canada, and Agriculture and Agri-Food Canada) and the Pest Management Regulatory Agency. In addition, we asked for additional documents and other information and conducted interviews with officials of the departments.

Our work was designed to provide a moderate level of assurance. We relied on departmental and agency responses for some of our conclusions; however, we have conducted sufficient inquiries to satisfy ourselves that the information provided is plausible under the circumstances.

Criteria

Based on our assessment of the actions taken by departments in addressing the 27 recommendations we assigned one of the following three ratings:

- **Completed.** Corrective action has been fully implemented.
- **Satisfactory progress.** Progress is being made at a satisfactory pace.
- **Limited progress.** Some progress is being made, but the pace or scope is not satisfactory.

In determining the ratings given for each recommendation, the audit team considered such factors as the following:

- the inherent conditions embedded in the recommendation;
- whether the action(s) taken by the department related directly and deliberately to the recommendation;
- the complexity of the recommendation;
- the time that has elapsed since the recommendation was made;
- the extent to which existing and remaining planned actions will address the recommendation;
- the balance between activities and results; and
- any significant changes in circumstances that have occurred since the 1999 audit.

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Report of the Commissioner of the Environment and Sustainable Development to the House of Commons—2002

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2002

Report of the

Commissioner of the Environment and Sustainable Development

to the House of Commons

Chapter 2

The Legacy of Federal Contaminated Sites

Office of the Auditor General of Canada

The 2002 Report of the Commissioner of the Environment and Sustainable Development comprises 6 chapters and The Commissioner's Perspective—2002. The main table of contents is found at the end of this publication.

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Chapter

2

The Legacy of Federal Contaminated Sites

The audit work reported in this chapter was conducted in accordance with the legislative mandate, policies, and practices of the Office of the Auditor General of Canada. These policies and practices embrace the standards recommended by the Canadian Institute of Chartered Accountants.

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The Legacy of Federal Contaminated Sites

Main Points

2.1 The federal government has so far failed to address the issue of federal contaminated sites adequately. Thirteen years after it started to deal with this issue, it still

- does not know how many of its sites are contaminated;
- does not have a full picture of the risks to human health and the environment and the likely cost of dealing with (cleaning up or managing) the sites;
- does not have a ranking of the worst sites in order of risks;
- does not have long-term, stable funding to manage the problem effectively; and most important,
- does not have firm central commitment and leadership, including an action plan for dealing with the higher-risk sites in a timely manner.

2.2 The federal government could appear to be applying a double standard. On the one hand, those who lease federal lands and cause contamination are required under recent lease agreements to clean up their own mess. On the other hand, the government has failed to establish a similar mandatory requirement for federal organizations to clean up their own contamination on federal lands.

2.3 At its current spending rate, the government will need decades to deal with its known contaminated sites. It has assessed over 8,500 sites since 1996 but has yet to begin evaluating at least 1,500 additional sites it suspects to be contaminated. Government officials are considering including their current estimate of the minimum amount of the government's environmental liability in the notes to the government's financial statements for the year ended 31 March 2002. We estimate that the total cost to Canadians to deal with these sites represents billions of dollars.

2.4 The federal government says it is managing its fiscal deficits to avoid leaving a burden for future generations, but its failure to deal in a timely manner with the environmental legacy of contaminated sites in its own backyard passes on another burden.

Background and other observations

2.5 As noted in our audits of 1995 and 1996, the need for a program to clean up contaminated sites in Canada was recognized in 1989 when the federal government participated in a $250 million five-year federal-provincial program. As part of this program, Environment Canada started to develop a list of federal sites suspected of being contaminated and requiring further study. This program ended in 1995. Other federal commitments since 1996 have so far resulted in only limited progress toward resolving the problem of contaminated sites under federal responsibility. The progress has been focussed on developing policy and guidance documents, assembling a more complete picture of federal contaminated sites, and cleaning up some of them.

2.6 Unless they are managed properly, contaminated sites can lead to significant contamination of water, soil, and air, thus threatening human health and the environment; they can also take valuable land out of productive use and jeopardize the way of life of those who live off the land.

2.7 It is far easier and less costly (up to 40 times less expensive in the case of groundwater supply contamination, according to an estimate by the United States Environmental Protection Agency) to prevent environmental damage than to try and correct it after contamination occurs. Pollution prevention is an important element of sustainable development.

2.8 The use of storage tank systems containing petroleum or allied petroleum products is a major cause of the contamination on federal sites and is a widespread problem. The current regulations are mainly a paper exercise that will do little, if anything, to reduce contamination caused by spills or leaks. Significant gaps exist, with potentially harmful consequences. For example, under the regulations a leaky storage tank could remain in use, polluting the surrounding environment, and there is no requirement to clean up the contamination.

2.9 One of Canada's largest and most contaminated sites is the Sydney tar ponds. Although federal officials do not consider it to be a federal site, the government has

- spent over $66 million on environmental studies and cleanup attempts since the 1980s. An additional contribution of $187 million was made to modernize steel-making facilities—amounting to over $250 million spent on this site and surrounding area during the last 20 years;
- not yet found, along with the other parties involved, an acceptable cleanup or management solution, although federal government officials anticipate that the community will recommend options in spring 2003 for consideration by the three levels of government;
- not decided on the extent of its future contribution, if any, toward the costs associated with the next cleanup phase of the Sydney tar ponds site; and
- not developed a clear policy for dealing with contaminated sites where other levels of government are involved.

After 20 years and $66 million spent on environmental studies and cleanup attempts, the federal government still needs to finalize its game plan for the Sydney tar ponds site.

Federal departments and agencies have responded. All federal departments and agencies responsible for contaminated sites, except for Agriculture and Agri-Food Canada and Health Canada, provided a response to our recommendations. Their detailed responses follow each recommendation throughout the chapter. They generally agree with our recommendations and in their responses have indicated a number of actions under way to deal with them, in whole or in part. The Treasury Board Secretariat and Environment Canada did not fully agree with all of our recommendations. We noted that some departments and agencies expressed concerns in their responses regarding the adequacy of existing human and financial resources to complete the identification and assessment of contaminated and suspected sites, and to deal with (clean up or manage) the sites in a timely manner. Responses also revealed different points of view on a mandatory requirement for federal organizations to clean up or manage their contaminated sites and the preparation of a consolidated report on progress achieved against action plans.

Introduction

The issue

Contaminated site—A site at which substances occur at concentrations above background levels and pose or are likely to pose an immediate or long-term hazard to human health or the environment, or that exceed levels specified in policies and regulation.

2.10 Thousands of sites on federal properties have been contaminated by the federal government, tenants on its lands, and others as a result of decades of misuse relative to recent standards. These contaminated sites are scattered across Canada, some in urban settings and others in remote areas. They include abandoned mines in the North (see Chapter 3), airports, government laboratories, harbours and ports, landfills, lighthouse stations, military bases and training facilities, and reserve lands. Exhibit 2.1 provides several examples of the approximately 780 federal contaminated sites that require action.

2.11 The contaminants at these sites include petroleum products such as gasoline and oil, heavy metals, and a variety of toxic substances (Appendix A). Exposure to high levels of hazardous substances through the contamination of water, soil, and air has been linked to various adverse health conditions. These include cancer, respiratory illness, reproductive problems and birth defects, nervous system disorders, allergic reactions, hypersensitivity, and decreased resistance to disease.

2.12 If not properly managed, contaminated sites can lead to significant contamination of water, soil, and air, thus threatening human health and the environment. They can also take valuable land out of productive use for agriculture, commerce, industry, recreation, or housing, which in turn will lower property values and affect tourism, recreation, and economic development. Contamination of a site can force nearby residents to move or to find alternative sources of water, which may be costlier, or if they live off the land, it can jeopardize their way of life.

Did you know?

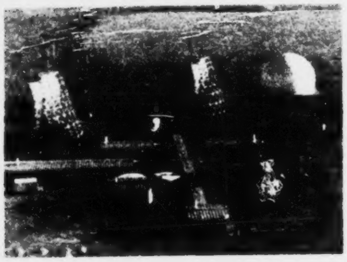
Number of litres of groundwater that one litre of gasoline can render unfit for human consumption: **1 million**

Percentage of all Canadian municipalities that rely entirely or partially on groundwater: **40**

2.13 The sizes of contaminated sites range widely. For example, a minor spill from a gasoline storage tank could be cleaned up within days at a cost of a few thousand dollars. Cleaning up a very large site, such as the abandoned Giant Mine in Yellowknife, could take a decade or more and cost about $50 million to about $400 million depending on the cleanup option chosen. Some sites present a higher risk and need more urgent attention; others present a lower risk, and departments have more discretion in timing their cleanup. The cleanup of these sites represents billions of dollars in costs to Canadians.

2.14 A federal contaminated site needs to be dealt with (cleaned up or managed) to a level appropriate to the land's current or intended federal use. Cleaning up some sites, such as certain abandoned mines, is not always technically or economically feasible. Those sites require long-term care to monitor and maintain the containment structures and to control access to, and use of, the land.

Examples of federal contaminated sites requiring action



Property name: Distant Early Warning (DEW Line) sites (such as the National Defence site at Komakuk Beach, Yukon shown here)

Number of contaminated sites: 42

Custodian: National Defence (21 sites), Indian and Northern Affairs Canada (21 sites)

Location: Roughly along the 66th parallel in Canada's North

Contaminants: Petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAHs), toxic organics (such as polychlorinated biphenyls or PCBs)

Status: National Defence (7 sites remediated, 7 under remediation or remediation scheduled, 2 assessed, 5 under assessment), Indian and Northern Affairs Canada (3 sites remediated, 18 under assessment)

Property name: Victoria Harbour

Number of contaminated sites: 17

Custodian: Transport Canada

Location: Victoria, British Columbia

Area: 270.49 hectares

Contaminants: petroleum hydrocarbons and nuisance substances (asbestos)

Status: under assessment

Property name: Tobacco Plains (abandoned gas station)

Number of contaminated sites: 1

Custodian: Indian and Northern Affairs Canada

Location: Roosville, British Columbia

Area: Not specified

Contaminants: Petroleum hydrocarbons and PAHs

Status: Under remediation

Property name: Banff National Park of Canada

Number of contaminated sites: 32

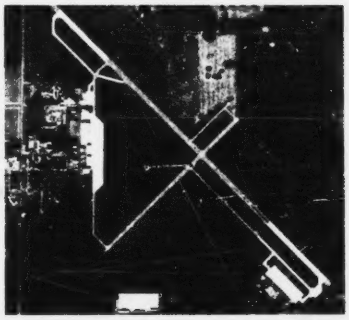
Custodian: Parks Canada Agency

Location: Rocky Mountains, Alberta

Area: 6,641 square kilometres

Contaminants: Petroleum hydrocarbons and PAHs, heavy metals, oxygen-depleting substances, toxic organics, nuisance substances

Status: 26 sites under assessment, 1 under risk management, and 5 assessed with no further action required [illegible] **(Continued)**



Property name: Edmonton Garrison

Number of contaminated sites: 18

Custodian: National Defence

Location: Sturgeon, Alberta

Area: 2,533.83 hectares

Contaminants: Petroleum hydrocarbons and PAHs, heavy metals

Status: 2 sites remediated, 3 under remediation, 11 under risk management, 2 under assessment

Property name: McNab Point (lighthouse)

Number of contaminated sites: 1

Custodian: Fisheries and Oceans Canada

Location: Niagara-on-the-Lake, Ontario

Area: 0.09 hectare

Contaminants: Heavy metals (lead and zinc)

Status: Under assessment

Property name: Kingston Harbour

Number of contaminated sites: 8

Custodian: Transport Canada

Location: Kingston, Ontario

Area: 1,196.78 hectares

Contaminants: Petroleum hydrocarbons and PAHs, heavy metals, oxygen-depleting substances, toxic organics

Status: All sites under risk management

Property name: Gloucester Landfill (south of Ottawa International Airport)

Number of contaminated sites: 1

Custodian: Transport Canada

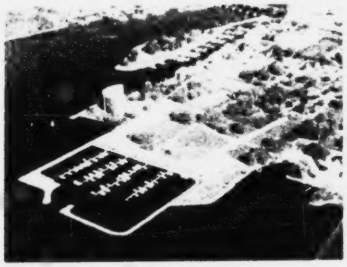
Location: Ottawa, Ontario

Area: About 107 hectares

Contaminants: Toxic organics from hazardous and municipal waste

Status: Under remediation

[illegible] (Continued)



Property name: Small Craft Harbour Belleville

Number of contaminated sites: 2

Custodian: Fisheries and Oceans Canada

Location: Belleville, Ontario

Area: 14 hectares

Contaminants: Petroleum hydrocarbons and PAHs, heavy metals

Status: Under assessment

Property name: Lachine Canal

Number of contaminated sites: 32

Custodian: Parks Canada Agency

Location: Montreal area, Quebec

Area: 84.1 hectares

Contaminants: Petroleum hydrocarbons and PAHs, heavy metals

Status: 19 sites under assessment, 11 assessed, 1 under risk management, 1 remediated

Property name: Canadian Forces Goose Bay

Number of contaminated sites: 63

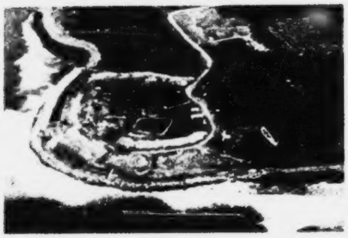
Custodian: National Defence

Location: Happy Valley-Goose Bay, Newfoundland and Labrador

Area: 5,047.83 hectares

Contaminants: Petroleum hydrocarbons and PAHs, heavy metals, oxygen-depleting substances, toxic organics

Status: 4 sites remediated, 28 under remediation, 28 under risk management, 3 under assessment



Property name: Argentia (former United States naval base)

Number of contaminated sites: 31

Custodian: Public Works and Government Services Canada

Location: Argentia, Newfoundland and Labrador

Area: 3,388.36 hectares

Contaminants: Petroleum hydrocarbons and PAHs, heavy metals, toxic organics (PCBs), nuisance substances (asbestos), explosives

Status: 5 sites remediated, 18 under remediation, 5 under risk management, 3 under assessment

[illegible] Waste Landfills Inventory maintained by the Treasury Board Secretariat and information provided by the [illegible]

The federal role

2.15 Current government policy requires that federal departments and agencies follow sound environmental management practices on their properties to avoid causing contamination. They are also required to take a consistent and orderly approach to managing sites that are already contaminated, in order to achieve the best value for Canadians.

Previous audits

2.16 In 1995 we audited certain aspects of the federal government's management of hazardous wastes (see the Auditor General's May 1995 Report, Chapter 2). One aspect we looked at was how Environment Canada manages contaminated sites; another was the storage and destruction of polychlorinated biphenyls (PCBs). We reported our concern that when the National Contaminated Sites Remediation Program ended in 1995, the government lacked adequate information on federal contaminated sites, their risks to human health and the environment, and the cost of cleaning them up. We also reported that no national plan or federal fund had been created for cleaning up the remaining contaminated sites that pose unacceptable risks to human health and the environment.

2.17 In 1996 we examined the approach of the federal government to gathering information on its contaminated sites (see the Auditor General's November 1996 Report, Chapter 22). We concluded that the government did not have a complete picture of its contaminated sites or a timetable for assembling one. This meant it was unable to assess the risks to health, safety, and the environment; nor could it establish how long it would take and how much it would cost to clean up and manage its contaminated sites. We reported finding limited central leadership and a lack of accountability for providing it.

2.18 We issued follow-up reports on both audits, in December 1997 and December 1998 respectively. We reported that the government had made only limited progress toward implementing our recommendations.

Focus of the audit

2.19 In examining whether progress had advanced since our last audits, we asked the following questions:

- Does the federal government have a complete inventory of the sites it owns or manages that are contaminated?
- Does it have a full picture of the risks the sites pose and the likely cost of dealing with the sites?
- Does it have a management framework for these sites that includes a long-term action plan for dealing with the worst sites in order of risk?

2.20 Our audit included a survey of all 15 federal departments and agencies that own or manage sites that have been contaminated. However, we focussed on four key departments: Fisheries and Oceans Canada, Indian and Northern Affairs Canada, National Defence, and Transport Canada.

We examined policies and guidance documents developed mainly by the Treasury Board Secretariat, as well as Environment Canada's role with respect to contaminated sites.

2.21 For more information on our audit objectives, scope, approach, and criteria, see About the Audit at the end of the chapter.

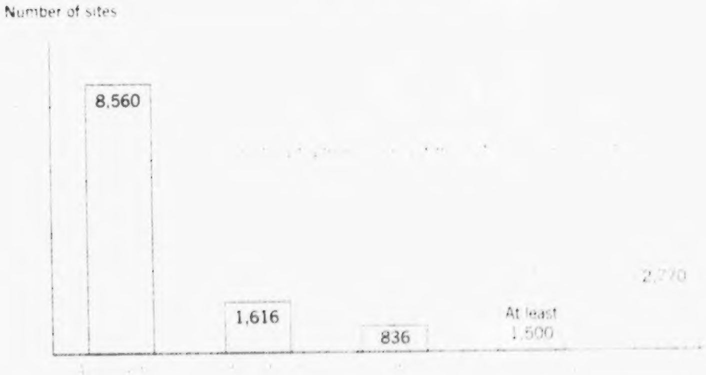
Observations and Recommendations

[illegible]

2.22 Some progress has been made since our 1996 audit. Based on the results of our survey, departments reported that they had assessed 8,562 suspected contaminated sites since 1996 to determine whether or not they were contaminated. They also indicated that 1,616 contaminated sites had been cleaned up and that 836 sites are currently being cleaned up or managed (Exhibit 2.2).

2.23 Substantial work remains to be completed. Eleven departments reported to us that at least 1,522 suspected sites still require initial assessment work to determine whether they are contaminated. Three departments (Department of Foreign Affairs and International Trade, Indian and Northern Affairs Canada, and Fisheries and Oceans Canada) know that they have suspected contaminated sites but are uncertain how many exist. The department of Fisheries and Oceans Canada has not established a time frame for completing its assessments. The federal government is unable to inform Parliament and the people of Canada of the potential risks that these unassessed sites may pose.

Federal contaminated sites—The current situation



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Observations and Recommendations

The current situation

Thousands of sites still need attention

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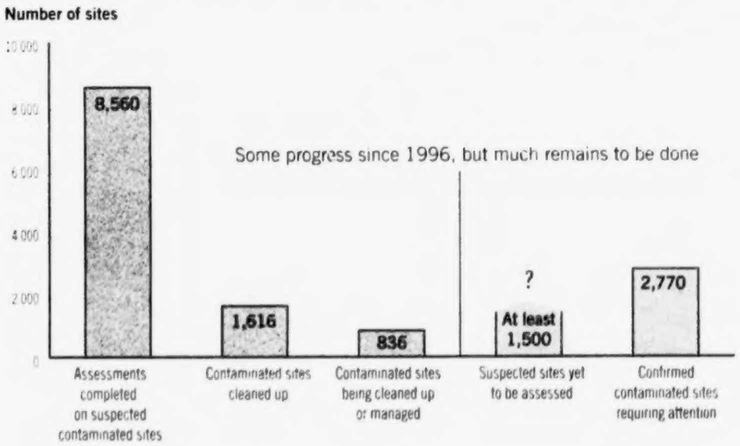
Exhibit 2.2 **Federal contaminated sites—The current situation**



2.24 Of the assessed sites, departments reported to us in the fall of 2001 that there were 3,606 contaminated sites on federal lands at that time. While 836 of these are currently being cleaned up or managed, thousands of sites still need attention.

How did this situation arise?

2.25 Over many decades, direct actions and operations of the federal government and others have caused the contamination of thousands of federal sites. Contamination resulted, in part, from the application of standards or practices of the day, many of which are no longer viewed as being environmentally acceptable. This situation mainly occurred before the government's commitments to pollution prevention, which can help limit contamination of new sites. Some of the causes of contamination were the following:

- spills and leaks from fuel storage tanks;
- disposal of hazardous wastes, laboratory wastes, lethal warfare agents (such as mustard gas), and pesticides; and
- the use of sites for training in military and airport fire-fighting operations.

2.26 Some contaminated sites, known as orphan sites, became the federal government's responsibility when those who caused the contamination went out of business or were unable to pay for cleanup. Abandoned mines in the North are an example. The government is responsible for managing and cleaning up these orphan sites (see Chapter 3).

Did you know?

Number of tonnes of sediments contaminated with chemical waste at the Sydney tar ponds
700,000

Number of storeys in a building the size of a football field this waste would fill 60

2.27 At some contaminated sites where several levels of government (federal, provincial, and municipal) are involved, the federal government has yet to clarify what role it will play. For example, the Sydney tar ponds site has involved the private sector, a federal and a provincial Crown corporation, and a municipal landfill. The federal government has spent over $66 million on environmental studies and cleanup attempts since the 1980s. An additional contribution of $187 million was made to modernize steel-making facilities—amounting to over $250 million spent on this site and surrounding area since 1981 as part of various agreements with other levels of government. However, it has not yet decided on the extent of its future contribution, if any, toward the costs associated with the next cleanup phase at one of Canada's largest and most contaminated sites (see case study on page 12).

No clear, mandatory requirement exists to clean up federal contaminated sites

2.28 We reported in 1995 and 1996 that no federal legislation dealt specifically with the cleanup of federal contaminated sites. This remains unchanged. Although the 1999 *Canadian Environmental Protection Act*, Part 9, gives the federal government the ability to make regulations that could address issues related to federal contaminated sites, the government has not done so.

The Sydney tar ponds—One of Canada's largest and most contaminated sites

The federal government has

- spent over $66 million on environmental studies and cleanup attempts since the 1980s. An additional contribution of $187 million was made to modernize steel-making facilities, amounting to $250 million spent on the Sydney tar ponds site and surrounding area during the last 20 years (Appendix B);
- not yet found, along with the other parties involved, an acceptable cleanup or management solution; however, federal government officials anticipate that the community will recommend options in spring 2003 for consideration by the three levels of government;
- not decided on the extent of its future contribution, if any, for the costs associated with the next cleanup phase of the Sydney tar ponds site; and
- not developed a clear policy for dealing with contaminated sites where other levels of government are involved.

After 20 years and $66 million spent on environmental studies and cleanup attempts, the federal government still needs to finalize its game plan for the Sydney tar ponds site.

Background

Sydney
Nova Scotia

For the purposes of this chapter, we refer to the Sydney tar ponds site as being part of the Muggah Creek watershed. This site comprises the first five areas indicated on the map. The Sydney tar ponds site rests in the heart of an urban area in Sydney, Nova Scotia, where more than 25,000 people live within a four-kilometre radius. Contaminants found within and surrounding the areas include heavy metals, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and raw sewage. This site is considered one of Canada's largest and most contaminated sites.

Sources of contamination

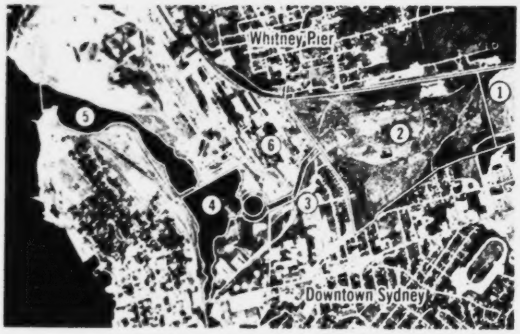
The contaminants at the Sydney tar ponds are mainly the result of steel-making operations carried out, until 1967, by several private sector owners. In 1967, the Nova Scotia government bought the steel-making operation and created the Sydney Steel Corporation (SYSCO), a provincial Crown corporation. The SYSCO plant was shut down in 2000. The federal government owned and operated the coke ovens from 1968 to 1973 through the Cape Breton Development Corporation, a federal Crown corporation. Over the years, the municipal landfill area also contributed contamination. The Sydney tar ponds is an example of a contaminated site where three levels of government are involved. However, there is no clear federal policy for dealing with contaminated sites where other levels of government are involved.

Reason for federal involvement

Federal files indicate that the federal government is involved in the Sydney tar ponds because of the scale and complexity of the challenge and the inability of any one level of government to act effectively on its own. In 1998, all three levels of government signed a memorandum of understanding (MOU) with the Joint Action Group, a community-based advisory body, acknowledging that resolving the health and environmental issues at the Sydney tar ponds is beyond the scope of any single level of government. A purpose of the MOU was to demonstrate and confirm the parties' long-term commitment to providing funds and the timely implementation of approved cleanup projects, subject to governments' resource constraints. The MOU also states that it is not intended to establish legally binding obligations among the parties.

Federal contributions to date

During the last 20 years, the federal government has spent over $250 million on this site and surrounding area as part of various agreements with other levels of government (see Appendix B). This includes about $66 million on environmental studies and cleanup initiatives associated with the Sydney tar ponds site. It also includes $187 million spent mainly in the 1980s to modernize the SYSCO facilities, a source of contamination at the Sydney tar ponds site. Although the objectives of the two modernization agreements did not specifically mention pollution prevention or cleanup of the site, some of the projects funded incorporated environmental improvements.



The following areas form part of the Muggah Creek watershed:

① Old Sydney landfill
② Coke ovens
③ Coke ovens brook connectors
④ South tar ponds
⑤ North tar ponds
⑥ Sydney Steel Corporation

The Sydney tar ponds—One of Canada's largest and most contaminated sites (cont'd)

Evaluating cleanup solutions

To date, the federal government, along with the other parties involved, has not yet found an acceptable cleanup or management solution. The three levels of government continue to conduct further studies, carry out surface cleanup, and evaluate various cleanup solutions. Federal government officials anticipate that cleanup or management options will be recommended by the Joint Action Group to the three governments for their consideration in spring 2003.

Future federal contributions undecided

We noted that the provincial government first reported its estimate of the cost of cleaning up the Sydney tar ponds and adjacent sites in its financial statements for the year ending 31 March 2000. The amount reported was $318 million. In arriving at its estimate, the Province assumed that the current cost-sharing arrangements with the federal government would continue for the subsequent phases of the cleanup. We noted that more recent cost-sharing agreements generally provide for a federal/provincial ratio 70:30. However, federal departmental officials informed us that the federal government has not yet decided on the extent of its future contribution, if any, for the costs associated with the next cleanup phase of the Sydney tar ponds site.

Conclusion

In our opinion, it is important for the federal government to decide on what role it is going to play on this site and make long-term stable funding commitments if appropriate.

2.29 Two federal laws apply indirectly to contaminated sites. The *Fisheries Act* applies only when contaminants leak, or are likely to leak, into fish-bearing waters—but it does not apply to the site itself. Federal policies developed under the *Federal Real Property and Federal Immovables Act* require departments to determine the environmental condition of a property before buying or selling it and to determine whether it needs to be cleaned up.

2.30 As noted in our case study on page 14, the use of storage tank systems is a major cause of the contamination on federal sites, and there are significant gaps in the current federal regulations, with potentially harmful consequences. For example, there is no provision that requires departments to clean up known contamination of spills and leaks from storage tanks.

2.31 The federal government, as Canada's largest landowner, is not leading by example. It could appear to be applying a double standard. On the one hand, those who lease federal lands and cause contamination are required under recent lease agreements to clean up their own mess. This is consistent with the "polluter pays" principle. On the other hand, the government has failed to establish a similar requirement for federal organizations to clean up their own contamination on federal lands. It is not in the spirit of the federal Code of Environmental Stewardship for the Government of Canada to require that others take action to protect the environment if it is not prepared to take the same action itself.

2.32 Most provinces have some form of legislation that can require owners of contaminated sites in the province to deal with the sites. In at least half of the provinces (British Columbia, Manitoba, New Brunswick, Nova Scotia, and Ontario), the legislation is binding on the provincial government. However, the federal government does not have to comply with provincial laws. If it did, federal documents indicate that many federal sites could face cleanup orders in some provinces.

The Sydney tar ponds—One of Canada's largest and most contaminated sites (cont'd)

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Storage tanks—Significant gaps exist in current regulations

Significant gaps in the current federal regulations for storage tanks need to be addressed to help prevent and clean up contamination from storage tanks.

The current situation

In 2000, departments reported over 7,000 storage tank systems containing petroleum and allied petroleum products on federal lands. A storage tank system can consist of a single storage tank or two or more connected tanks. These systems may contain flammable substances (aviation and diesel fuel, engine oil, fuel oil, gasoline, solvents, and thinners). About 34 percent of the systems are underground, which makes it more difficult to detect contamination.

The map shows that aboveground and underground storage tank sites under the responsibility of the four departments we examined are spread throughout Canada. The accompanying bar graph shows the approximate number of storage tank systems, by region, for the four departments.

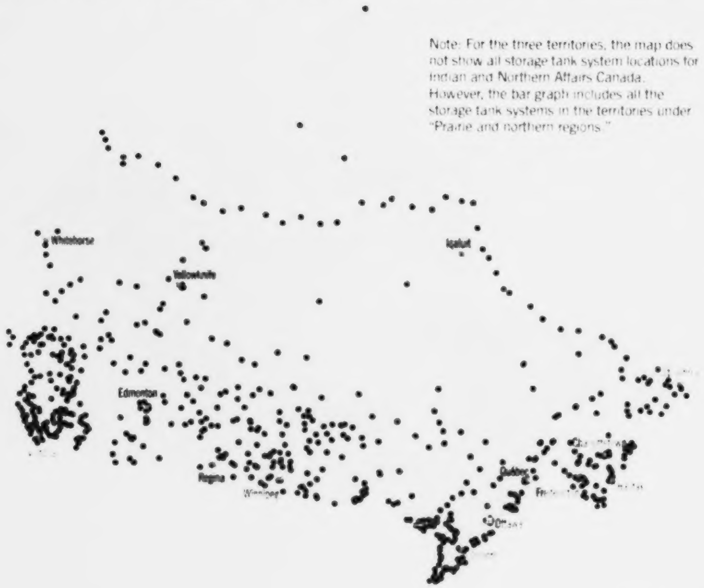
Spills and leaks from storage tank systems on federal lands and Aboriginal lands have contaminated many sites. Spills and leaks can endanger human life, put wildlife at risk, destroy habitat, and interfere with local tourism, recreation, and fish farming. Even small amounts of the stored substances in the wrong places can make water unfit to drink, contaminate soils, create explosive hazards, and cause offensive odours (see illustration on page 15).

How did this situation arise?

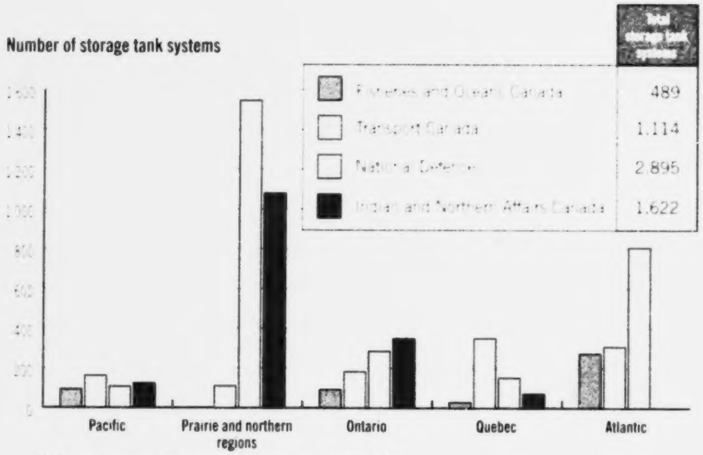
In the last 40 years, storage tank systems for petroleum products were installed on federal lands mainly to service an expanding transportation sector. Many of the systems were made of steel, without rust protection. As those systems age, they are more likely to leak, due in part to rusting.

What is the federal government doing?

In 1996, Environment Canada issued storage tank registration regulations under the *Canadian Environmental Protection Act*. These regulations came into force in 1997 and apply to all owners of storage tank systems that contain petroleum or allied petroleum products and are on federal lands and Aboriginal lands. Each federal department must keep a record of all registered storage tank systems on its lands. It must also submit an annual compliance status report to Environment Canada or include the report in its performance report. All federal departments that own and operate storage tank systems in Canada agreed to comply with the regulations, except for Transport Canada (see page 15, fourth bullet).



Note: For the three territories, the map does not show all storage tank system locations for Indian and Northern Affairs Canada. However, the bar graph includes all the storage tank systems in the territories under "Prairie and northern regions."



Number of storage tank systems

1 Number of registered storage tank systems for year 2000

2 Number of storage tank systems on Transport Canada lands as at 1 March 2002

Source: Fisheries and Oceans Canada, Indian and Northern Affairs Canada, National Defence, and Transport Canada

Storage tanks—Significant gaps exist in current regulations (cont'd)

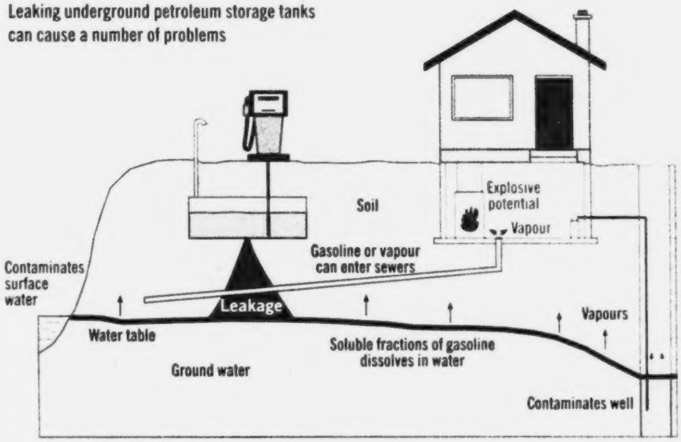
Under the regulations, Environment Canada receives and processes the annual storage tank reports from departments. As a regulator, Environment Canada is also expected to provide leadership, advice, and guidance to departments and to carry out compliance, implementation, and enforcement activities.

Are federal actions effective?

The current registration regulations are not enough. They are mainly a paper exercise that will do little, if anything, to reduce contamination caused from spills or leaks. We noted the following significant gaps in the regulations:

- There is no provision that requires the cleanup of spills and leaks from storage tanks.
- An owner can use a registered storage tank system that does not meet current codes and standards, as such compliance requirements are not included in the current regulations. A tank could be in compliance with the registration regulations and yet be leaking. There is no provision in the existing regulations to stop an owner from operating a leaking system.
- For annual compliance reporting purposes, storage tank compliance is not clearly defined. The regulations make reference to guidelines that in turn refer to over 250 technical elements contained in codes and standards that cover many life-cycle aspects of storage tanks. However, it is not mandatory for departments to comply with these codes and standards. Each department has developed its own tools to determine storage tank compliance and they differ. The numbers indicating storage tank compliance as reported are misleading.
- Problems occur when dealing with storage tanks owned by some tenants on federal lands. Departmental officials indicated that there has been some difficulty in getting some tenants to register their tanks. Another problem relates to the concern that the information reported by a custodial department in its annual report is not the same as what a tenant is required to provide to the department. Under the regulations, tenants are only required to provide information on the registration elements of their storage tank systems; they are not required to determine or report on compliance with the storage tank technical guidelines. Thus, a reporting department may assume a potential liability for tanks owned and operated by tenants that are reported as being compliant with the regulations. Transport Canada officials cited this as the main reason why it did not agree to comply with the registration regulations.
- Inspections and monitoring of storage tank systems are not mandatory under the current regulations. Yet, regular inspection and monitoring for leaks is a basic preventive measure.

Leaking underground petroleum storage tanks can cause a number of problems


Explosive potential
Soil
Vapour
Gasoline or vapour can enter sewers
Contaminates surface water
Leakage
Vapours
Water table
Soluble fractions of gasoline dissolves in water
Ground water
Contaminates well

Source: Environment Canada

Lessons for the future

It is far less expensive to prevent a leak from occurring than to deal with the problem afterwards. A study conducted for Environment Canada indicated that it can be many times more costly to clean up contamination from a leaking tank than to upgrade or replace a tank.

Officials at two key departments have informed us that they are increasingly replacing underground storage tanks with aboveground storage tanks as this helps to reduce the risk of future contamination and to make it easier to detect leaks.

There are also alternatives to using petroleum storage tanks. For example, Fisheries and Oceans Canada has been replacing the main source of power at some of its remote diesel-operated lighthouse stations with solar power, a more sustainable energy source. This also has the added benefit of reducing greenhouse gas emissions, which have implications for climate change.

Environment Canada is currently developing new storage tank regulations. Departmental officials informed us that they expect to publish updated regulations in the *Canada Gazette*, Part I, by March 2003.

2.33 The lack of a clear, mandatory requirement for federal organizations to clean up federal contaminated sites is a disincentive for action. If there were a requirement to clean up sites that remain federal property, cleaning up a department's contaminated sites would be a higher priority. There are various options available to the government to remove this disincentive. For example, the government could use specific legislation for this purpose; it could make appropriate regulations (developed by Environment Canada) under the *Canadian Environmental Protection Act* (1999); or it could impose a government-wide policy. In the absence of any mandatory requirement to clean up federal contaminated sites, it is not clear to departments what they are obligated to do; nor is it clear to Canadians what can be expected from federal organizations.

What is the federal government doing?

2.34 As we noted in our 1995 and 1996 audits, the need for a program to clean up contaminated sites was recognized in 1989 when the federal government participated in the $250 million five-year federal provincial National Contaminated Sites Remediation Program. An objective of this program was to clean up certain high-risk contaminated sites. As part of the program, Environment Canada started to develop a list of federal sites where contamination was suspected and that required further study. This program ended in 1995.

2.35 Other federal commitments we noted in our 1995 and 1996 audits included Canada's Green Plan (1990), the Code of Environmental Stewardship for the Government of Canada (1992), and A Guide to Green Government (1995). As well, in a 1998 draft accounting policy, the federal government expressed its intention to include in its financial statements the costs of dealing with contaminated sites under its responsibility.

Recent commitments to take action

2.36 Two years later, in June 2000, the federal government approved the Federal Contaminated Sites Assessment Initiative (FCSAI). The initiative provided a total of $30 million over two years to help departments and agencies estimate the cost of cleaning up or managing their contaminated sites. A goal of the government was to be able to report the total cost in its financial statements for the year ending 31 March 2002.

2.37 Funding for the FCSAI ended on 31 March 2002. As a result of statements made in the 2001 Budget, the government will delay recording the cost of cleaning up and managing its contaminated sites until at least 2003, five years after it expressed its intention to do so.

2.38 In the 2001 Budget speech, the Minister of Finance acknowledged that contaminated land lies unused and unproductive across Canada. The Minister recognized that these contaminated sites, known as brownfields, may have the potential to be cleaned up, thereby bringing health, environmental, and economic benefits to local communities. Accordingly, the Minister announced that the National Round Table on the Environment and the Economy had agreed to develop a national brownfield redevelopment strategy. This strategy is expected to be released in November 2002 and will be available on the Round Table's Web site (www.nrtee-trnee.ca/).

Roles assigned to key federal players

2.39 Part of the Treasury Board Secretariat's role is to develop overall policy for managing federal contaminated sites, along with supporting policies. The Secretariat is also responsible for managing a central database of all known federal contaminated sites, using information provided by federal departments and agencies.

2.40 Environment Canada has a role to play, within the federal government, in the development of regulations under the 1999 *Canadian Environmental Protection Act* that could address issues related to federal contaminated sites. The Department is also responsible for providing departments and agencies with scientific advice on how to manage their contaminated sites.

2.41 Other departments are also actively involved in addressing the problem of contaminated sites. For example, Health Canada provides guidance and leadership on health issues and responds to community health concerns in support of the provincial role. Public Works and Government Services Canada, through the supply of contracting services, provides other departments with strategic, technical, and project management expertise in assessing, investigating, cleaning up, or managing their sites.

2.42 The interdepartmental Contaminated Sites Management Working Group (CSMWG) was established in 1995 to develop a common federal approach to managing contaminated sites and exchanging information on them. Currently representing 15 departments and agencies, the Working Group has been very active since our 1996 audit. It has established a Web site (www.ec.gc.ca/etad/csmwg) that features its publications, various technical tools, and other reference materials.

Policies and guidance documents developed since our last audits

2.43 Since 1996, the federal government has developed policies to identify and manage its contaminated sites and to determine the related costs. It has also developed 12 guidance documents that deal with contaminated sites (Appendix C).

2.44 In 1998, the Treasury Board Secretariat developed an environmental policy requiring that when departments buy, use, or sell property, they take measures to ensure that future generations can continue to use it. This is consistent with the Code of Environmental Stewardship for the Government of Canada and the concept of sustainable development.

2.45 In February 1998, the Secretariat released a draft policy on accounting for costs related to contaminated sites. This policy was finalized in June 2002. The policy's intent is that the government will report any costs related to contaminated sites that it is likely to incur in order to

- deal with public health and safety,

- honour written agreements, or
- meet the standards set out in an act or regulation of a government in Canada (federal, provincial, or municipal) or abroad that it considers acceptable.

2.46 The inventory policy developed by the Treasury Board Secretariat in 2000 requires federal departments and agencies to keep a list of their known contaminated sites and landfill sites. This information is to be provided to the Secretariat at least once a year for updating its central database. This is an important step toward providing a government-wide summary of the number and status of contaminated sites under federal responsibility. This central database has been available since 17 June 2002 on the Secretariat's Web site (www.tbs-sct.gc.ca/dfrp-rbif/cs-sc/).

2.47 In 2001, the Secretariat developed a draft policy aimed at giving departments direction on managing their contaminated sites consistently, using best practices. This policy was finalized in June 2002. Each department will be required to develop a management plan by 30 June 2003.

2.48 Many of the guidance documents (listed in Appendix C) are directed mainly at federal contaminated sites. An exception is the Canadian Environmental Quality Guidelines, published in 1999. These guidelines were developed by the federal government and all provinces and territories to provide goals, benchmarks, or indicators for air, water, soil, sediment, and tissue.

Departments are laying the foundation

2.49 Since our previous audits, federal departments and agencies have focussed on assembling a more complete picture of their contaminated sites and cleaning up some of them.

2.50 In their second sustainable development strategies, all 15 departments and agencies we surveyed made one or more commitments to deal with the contaminated sites they own or manage. Eleven of them made one or more commitments related to their storage tanks.

Are federal actions effective?

2.51 Assigning responsibilities and developing guidance documents are necessary, but not sufficient, for dealing with federal contaminated sites. We would expect that a responsible landowner, including the federal government as Canada's largest landowner, would make a firm commitment to deal with its contaminated sites in a timely manner. For the federal government, such a commitment would be a management framework to

- develop a complete list of its contaminated sites,
- assess the risks they pose and the likely cost of correcting the problem,
- rank the sites in order of risk,
- ensure that departments and agencies have enough funds to fix the problem, and
- develop and carry out an action plan.

The government still does not have a list of all its contaminated sites

2.52 Although departments have identified and assessed additional contaminated sites since our last audit, they reported to us that at least 1,500 suspected sites still require initial assessment work to determine whether they are contaminated. Three departments (the Department of Foreign Affairs and International Trade, Environment Canada, and Fisheries and Oceans Canada) recognized that they have suspected contaminated sites but were uncertain how many existed.

2.53 The government still does not have a complete list of all its contaminated sites. For example, the list does not include contaminated sediments from untreated storm water discharge, contamination from lethal warfare agents, and all abandoned petroleum storage tanks that caused contamination. Identifying sites with suspected contamination is a first step in assembling a full picture of the problem; this step remains incomplete.

2.54 The next step is to assess the suspected sites for contamination. Of the four departments we examined, Fisheries and Oceans Canada was the only one that did not have a time frame for completing assessments of at suspected sites. As federal departments continue assessing their suspected sites, the number of sites known to be contaminated is expected to grow. Therefore, the government still does not know the full extent of the problem.

2.55 In the four departments we examined, we reviewed the databases they had developed to manage the information related to known contaminated sites. We noted that databases were designed to provide the information required for the Treasury Board Secretariat's central database on contaminated sites. However, the central database remains incomplete for two reasons. First, the departments have not yet identified and assessed all of their suspected contaminated sites. Second, the departments have not forwarded the information on all of their known contaminated sites to the central database because some of the data are still being analyzed. As at 31 July 2002, only about 2,850 contaminated sites were listed in the central database, compared with the 3,606 confirmed contaminated sites reported to us.

Risks and costs are not fully known

2.56 Federal departments have not yet fully assessed the known contaminated sites they own or manage; about 500 sites were classified as having insufficient information to determine whether action is required. Departments need to complete these assessments before they can assess the risks to human health and the environment and estimate the costs of cleaning up and managing their sites. As already noted, the government has delayed its commitment to record those costs until at least 2003.

2.57 We found that departments are not recognizing the costs associated with their contaminated sites in accordance with the accounting policy. For example, some departments do not always account properly for the costs when they first identify a contaminated site, as the policy requires, even though they know they will have to clean it up. Our review indicated that departments' current overall cost estimates were understated. The Treasury Board Secretariat will need to monitor the information from departments closely and make adjustments where needed, before the government records these costs in its financial statements.

2.58 Government officials are considering including their current estimate of the minimum amount of the government's environmental liability in the notes to the government's financial statements for the year ended 31 March 2002. We estimate that the total cost to Canadians to deal with these sites represents billions of dollars. This does not include Crown corporations, which are required to report their environmental costs in their own financial statements.

Did you know?

Ratio of the cost of cleaning up a contaminated site to the cost of completing accurate assessments (according to federal estimates): 10:1

2.59 Until the federal government has identified all its sites where contamination is suspected and has confirmed whether they are in fact contaminated, the full extent of the cleanup costs cannot be known. In our opinion, departments need to complete environmental site assessments of all contaminated sites under their responsibility so they can estimate and report more accurately what it will cost to manage them and clean them up. In the meantime, they can use the information they have to make their best estimate and continue to update their estimates as they get more information. This, in turn, would enable the federal government to include in its financial statements its best estimate of the actual and contingent liabilities (costs) related to contaminated sites under its responsibility.

2.60 **Recommendation.** The Treasury Board Secretariat, in conjunction with all federal departments and agencies responsible for contaminated sites (Appendix D), should determine the costs to deal with all known contaminated and suspected sites, and the Secretariat should report them in the federal government's financial statements.

Treasury Board Secretariat's response. The Secretariat accepts the recommendation. In June 2002, the Treasury Board approved the Policy on Accounting for Costs and Liabilities Related to Contaminated Sites requiring departments to identify and report as liabilities the estimated costs of managing and/or remediating known contaminated sites. The estimated liability will be disclosed in the Government of Canada summary financial statements, beginning with those for 2001–02.

Canada Customs and Revenue Agency's response. The Agency agrees. It will report liabilities and contingent liabilities in accordance with the Treasury Board Policy on Accounting for Costs and Liabilities Related to Contaminated Sites. Costs will be determined when the damaging event takes place or in the fiscal year when the damage is identified. Costs and liabilities will be reported yearly in accordance with the above-mentioned policy.

Department of Foreign Affairs and International Trade's response. The current Treasury Board Secretariat Policy on Accounting for Costs and Liabilities Related to Contaminated Sites deals only with known sites.

The Department is satisfied that the current policy is sufficient and should not be expanded to include suspected sites.

Environment Canada's response. The Department agrees. Environment Canada has made an initial estimate of costs and liabilities for the sites for which it is responsible, in accordance with the Treasury Board Policy on Accounting for Costs and Liabilities Related to Contaminated Sites. These figures will be updated annually.

Fisheries and Oceans Canada's response. The Department agrees. The assessment of the costs associated with Crown-owned and other types of property is reported to the Treasury Board Secretariat annually. These costs are based on known liabilities and, where appropriate, on an extrapolation of the results of current assessments. The Department will continue its efforts in this area for Crown-owned and other types of property. The report to the Treasury Board Secretariat is updated annually.

Indian and Northern Affairs Canada's response. The Department accepts this recommendation. The Department will continue to assess known contaminated sites to get substantive liability figures, as most figures are currently indicative. The Department will also, based on available resources, assess suspected sites to determine the extent of contamination. It is extremely difficult to determine when assessments will be completed since every fiscal year funding that the programs receive is limited and used to deal with priority sites. Given the lack of secure, long-term funding, it is impossible at this point to give a time frame for when the Department will have cleanup cost estimates associated with its suspected sites.

Parks Canada Agency's response. Parks Canada is committed to reporting its total liabilities for contaminated sites by May 2003.

Royal Canadian Mounted Police's response. The Department concurs with the recommendation. In effect, the Department has reported and will continue to report consistent with the Policy on Accounting for Costs and Liabilities Related to Contaminated Sites.

Transport Canada's response. Transport Canada accepts the recommendation. It will continue to provide the Treasury Board Secretariat with its costs and liabilities information as required by the Secretariat. Transport Canada will follow the reporting procedures outlined by the Secretariat in the Public Accounts Instruction Manual.

The government has not ranked its sites in order of risk

2.61 The federal government has no master list that ranks contaminated sites under its responsibility in order of the risk they pose to human health and the environment. The different priorities that departments have set will have an impact on the extent to which they will consistently clean up their higher-risk sites first.

2.62 Departments' and agencies' responses to our survey questionnaire indicate that, over the last four years, total spending averaged about $90 million a year to clean up and manage federal contaminated sites.

National Defence and Indian and Northern Affairs Canada reported the largest expenditures, averaging about $40 million and $28 million per year respectively. We noted that some departments have received funding to clean up their contaminated sites regardless of the level of risk, while others have been unable to obtain funds to clean up sites that are known to be high-risk. Examples include the following:

- Fisheries and Oceans Canada, National Defence, and Transport Canada undertook much of their cleanup effort because the government decided to sell federal lands; the sites they cleaned up were not necessarily high-risk sites.
- Officials at Indian and Northern Affairs Canada were unable to obtain the necessary funds to deal with one high-risk site (Mount Nansen Mine, see Chapter 3). They claim that the site could be cleaned up to acceptable standards within three years for less than $6.3 million. Instead, the Department has recently been spending about $1.5 million a year on its care and maintenance.

Did you know?

Approximate annual amount per Canadian spent by the federal government to clean up and manage contaminated sites under federal responsibility **$3.00**

2.63 As the extent of this government-wide problem is understood more fully, the need increases for central leadership to rank the high-risk sites and ensure that resources are available in departments to deal with them. In our view, a government-wide ranking of the worst sites by risk would serve as an impetus for action and would help ensure that departments dealt with high-risk sites appropriately and cost-effectively. Of the approximately 780 known sites that departments currently classify as requiring action, cleanup action on about 250 of them has yet to begin. In addition, of the approximately 840 known sites that departments currently classify as likely requiring action, over 500 are still undergoing assessment to determine the nature and extent of cleanup required, if any.

Long-term, stable funding is needed

2.64 In some cases, departmental officials have stated that the cost of cleaning up or preventing the spread of contamination on their properties is more than is available in their budgets. The government has been made aware of this at least twice since 1999 but still has not provided long-term, stable funding. Six departments and agencies responding to our questionnaire said the lack of dedicated funds over the long term is a constraint to moving ahead faster with cleanup work.

2.65 As already noted, in 2000 the federal government provided $30 million over two years to help departments and agencies estimate the cost of cleaning up or managing their contaminated sites. That funding has ended and not all departments have completed their assessments. The government has not allocated additional funds to departments to complete the remaining assessments and clean up their high-risk sites, some of which are known to need immediate attention. At its current spending rate, it will take decades for the government to clean up all the federal contaminated sites it currently knows about.

A firm commitment with an action plan is missing

2.66 The federal government has not yet shown a firm commitment by preparing an action plan to ensure that departments deal with contaminated sites in a timely manner. We note that under the Treasury Board Secretariat's recently approved management policy, the first departmental management plans are to be submitted to the Secretariat for its information. There is no indication that the Secretariat will review the plans from a government-wide perspective to determine whether they address high-risk contaminated sites appropriately.

2.67 We believe that the Treasury Board Secretariat needs to explore options with departments and develop the government-wide action plan it now lacks for dealing with high-risk sites. One option, for example, could be establishing a central funding program to provide departments and agencies with the resources they need for their cleanup work. Disclosing in the government's financial statements the costs of dealing with all federal contaminated sites would highlight the need for central leadership to manage this significant financial liability.

2.68 Several gaps remain in federal policy related to contaminated sites. The government still needs to decide what role it wants to play in the cleanup of contaminated sites it does not own or manage, including those where other levels of government are involved, such as the Sydney tar ponds. It also needs to decide on its role in dealing with contaminated sites where the federal government is involved but the contamination was caused by others, including orphan sites such as abandoned mines in the North. In addition, the government needs to ensure that when landfill sites on federal property are designed, used, operated, and shut down, steps are taken to minimize contamination and prevent unacceptable impacts on human health and the environment.

2.69 In the sustainable development strategies tabled in February 2001, the four departments we examined made a general commitment to deal with their contaminated sites. However, none indicated when its contaminated sites would be cleaned up or managed so they no longer posed unacceptable risks to human health and the environment.

2.70 In our view, the federal government needs to take measures to ensure that contaminated sites under federal responsibility are cleaned up or managed so they no longer pose unacceptable risks to human health and the environment and that a costly legacy is not left to future generations.

2.71 **Recommendation.** Environment Canada should develop a clear, mandatory requirement for federal organizations to clean up or manage their contaminated sites.

Environment Canada's response. The Department does not accept this recommendation at this time. It does not propose to develop a mandatory instrument under the *Canadian Environmental Protection Act* (CEPA) at this time. Environment Canada views Treasury Board Policies as mandatory. Departments are making progress and significant investments are being made. The Department will continue to monitor progress on the implementation of the Treasury Board policy and will explore the development of CEPA instruments.

Indian and Northern Affairs Canada's response. The Department agrees. The Treasury Board Secretariat and Environment Canada could play a key leadership role, from the federal point of view, in the management of contaminated sites. Until stable, long-term funding for contaminated sites management is secured for federal departments, the issues and risks surrounding contaminated sites will continue to increase and become more difficult to deal with.

Public Works and Government Services Canada's response. The Department agrees but notes that mandatory requirements must be funded appropriately to facilitate compliance. With respect to orphan sites, the Department's agreement is also conditional upon funding being made available to clean up/risk manage orphan sites for which we are made responsible.

Royal Canadian Mounted Police's response. The Department concurs with the recommendation.

2.72 Recommendation. **The Treasury Board Secretariat and Environment Canada should develop policies to fill gaps, such as a policy for dealing with contaminated sites like the Sydney tar ponds site that involve many levels of government.**

Treasury Board Secretariat's response. The Secretariat partially agrees. The Treasury Board has recently issued two new policies, Accounting for the Costs and Liabilities of Federal Contaminated Sites and Management of Federal Contaminated Sites, which are intended to provide guidance in dealing with contaminated sites on federally owned lands or for which the federal government has taken responsibility. The Treasury Board mandate is for federal lands only; the Secretariat will continue to monitor policy requirements within its mandate.

Environment Canada's response. The Department agrees. Environment Canada, in consultation with central agencies and other departments, has begun the development of guidance for federal departments and agencies on participation in the assessment and remediation of contaminated sites that involve many levels of government. The expected completion date is the end of fiscal year 2002–03.

Indian and Northern Affairs Canada's response. See the Department's response to the recommendation in paragraph 2.71.

Public Works and Government Services Canada's response. The Department agrees, conditional upon inclusion in the policies of a statement to the effect that, where a federal department or agency will be asked to participate in a multi-stakeholder initiative on lands not under its control, funding will be made available.

Royal Canadian Mounted Police's response. The Department concurs with the recommendation.

2.73 Recommendation. All federal departments and agencies responsible for contaminated sites (Appendix D) should complete the identification and assessment of contaminated sites under their responsibility.

Canada Customs and Revenue Agency's response. The Agency agrees. It will conduct Phase II Environmental Site Assessments of known and suspected contaminated sites under its responsibility. For sites identified as of 31 March 2002, full assessments will be completed by 31 March [illegible]

Correctional Service of Canada's response. The Department fully accepts this recommendation. It is already committed to assessing its contaminated sites to a level where remedial or risk management approaches can be taken. However, some of these assessments are very expensive and the Department can allocate only a limited proportion of its operations budget to this endeavour. Over the past four years, the Department spent $2.4 million on site assessments, remediation, and risk management activities.

Department of Foreign Affairs and International Trade's response. The Department concurs with this recommendation. As required in the Treasury Board Federal Contaminated Sites Management Policy and the Best Practices Advisory on Contaminated Sites Management Plans, the Department will develop a contaminated sites management plan, which will include the next steps to identifying and completing site assessments of all suspected properties. As per Treasury Board Secretariat requirements, the contaminated sites management plan will be completed by 31 March [illegible]

Environment Canada's response. The Department agrees. It expects to complete this exercise for the sites for which it is responsible within five years, that is, by fiscal year 2007–08.

Fisheries and Oceans Canada's response. The Department agrees. The Contaminated Sites Management Plan will be developed by June 2003, as per Treasury Board Secretariat requirements. The plan will provide specific action for the identification, assessment, and ranking of sites according to potential risk. In addition, the plan will include action for cleaning up or otherwise managing the known contaminated sites. In addition, it should be noted that a policy on the federal involvement in non-federal sites must be developed to allow the Department to plan for further assessments of properties. The time frame for the implementation of the plan will depend upon the availability of the human and financial resources.

Indian and Northern Affairs Canada's response. See the Department's response to the recommendation in paragraph 2.62.

National Defence's response. The Department accepts the recommendation. Historically, the Department's environment departments have addressed the identification and assessment of contaminated sites. Those sites still requiring assessments and remediation are now captured through the business planning process and the Department's Corporate Environmental

Program. Outstanding activities will be included in the contaminated sites management plans required under the recently issued Treasury Board policy. This action is ongoing.

Natural Resources Canada's response. The Department accepts the recommendation. It will continue to work to complete the initial assessment of potentially contaminated sites under its responsibility. The initial assessment of suspected contaminated sites is expected to be completed in 2004.

Parks Canada Agency's response. As part of our draft environmental management system commitments, Parks Canada plans to complete an assessment of all of our sites by March 2006. As noted in the Report, our ability to meet this target will depend on the identification of stable funding.

Public Works and Government Services Canada's response. The Department agrees. It is actively assessing its real property inventory and will continue to do so as part of its contaminated sites management plan (see the Department's response to the recommendation in paragraph 2.75).

Royal Canadian Mounted Police's response. The Department supports the recommendation. In order to effectively implement this recommendation, the RCMP is currently developing a Contaminated Site Management Strategy, which is expected to be implemented by April 2003. This Strategy will allow the RCMP to properly identify and assess contaminated sites under its responsibility. The identification and assessment of contaminated sites is expected to be completed by March 2006. Please note that it is our intention to address the management of contaminated sites and storage tanks immediately.

Transport Canada's response. Transport Canada accepts the recommendation. It has a target and objective within its Environmental Management System to inventory and remediate or risk manage all sites by 2003–04.

Treasury Board Secretariat's response. The Secretariat agrees. Since June 2002, the Treasury Board has approved a number of policies making federal government departments accountable for the identification, assessment, and management of contaminated sites for which they are responsible. Federal departments and agencies have been actively engaged in identifying and assessing contaminated sites for which they are responsible and have already assessed 85 percent of suspected contaminated sites. This information has been recorded in the Federal Inventory of Contaminated Sites, which was made available to the public on the Internet in June 2002. Departments will continue to update the inventory on an ongoing basis. Completion date: July 2003.

2.74 Recommendation. The Treasury Board Secretariat and Environment Canada should provide central leadership to rank the high-risk sites on a government-wide basis and ensure a source of long-term stable funding to deal with these sites.

Treasury Board Secretariat's response. The Secretariat partially agrees. Federal departments and agencies are accountable for managing contaminated sites for which they are responsible within existing resource levels and in accordance with approved policies. The Contaminated Sites and Solid Waste Landfills Inventory Policy and the Federal Contaminated Sites Management Policy require departments to rank sites using the National Classification System for Contaminated Sites and deal with them on a priority basis. Resourcing decisions are made through the government's policy and priority-setting processes.

Environment Canada's response. The Department partially accepts this recommendation. It agrees with the Treasury Board Secretariat's response that sites should be ranked by risk but on a departmental basis. Environment Canada further notes that it has already developed several tools to assist federal departments in the management of their sites, including the National Classification System used to rank high-risk sites.

Indian and Northern Affairs Canada's response. See the Department's response to the recommendation in paragraph 2.71.

Public Works and Government Services Canada's response. The Department agrees.

Royal Canadian Mounted Police's response. The Department concurs with the recommendation.

2.75 Recommendation. **The Treasury Board Secretariat and Environment Canada, in conjunction with all departments and agencies responsible for contaminated sites (see Appendix D), should establish a firm commitment including an action plan and timetable to complete assessments, rank sites, and clean up or manage all known contaminated sites in a timely manner.**

Treasury Board Secretariat's response. The Secretariat partially agrees. Departments have demonstrated their commitment to addressing contaminated sites over the past two years by identifying and assessing their contaminated sites, and taking appropriate action to manage them. To date, over 85 percent of suspected sites have been assessed and classified, and almost 70 percent of the worst sites have been remediated, are in the process of being remediated, or are being risk-managed. Departments will ensure that this progress continues through the development of contaminated sites management plans, consistent with the Contaminated Sites Management Policy. Expected completion date is July 2003.

Environment Canada's response. The Department agrees. It also agrees with the Treasury Board Secretariat's response to this recommendation that each department and agency, as per the Contaminated Sites Policy, establish its own action plan and timetable. Environment Canada also co-chairs the Contaminated Sites Management Working Group, the interdepartmental forum to work on common contaminated sites issues. Activities on this committee include the development of guidelines and best practice advisories. This work is ongoing.

Canada Customs and Revenue Agency's response. The Agency agrees. It will develop contaminated sites management plans, referred to in the Federal Contaminated Sites Management Policy. These plans will be five-year plans, updated annually, that reflect current priorities and technology and take into account the available funds.

Correctional Service of Canada's response. The Department finds it difficult to commit to a precise time frame until all of our suspected sites have been subjected to a first characterization study, described in Phase II Assessment in the document entitled "A Federal Approach to Contaminated Sites." It is difficult to predict the full scope of the effort required for risk assessments, risk management, or remediation work until the Phase II assessments have been completed. External funding will also be required to fully action this recommendation.

Fisheries and Oceans Canada's response. The Department agrees. The Contaminated Sites Management Plan will be developed by June 2003, as per Treasury Board Secretariat requirements. The plan will provide specific action for the identification, assessment, and ranking of sites according to potential risk. In addition, the plan will include action for cleaning up or otherwise managing the known contaminated sites. It should be noted that a policy on the federal involvement in non-federal sites must be developed to allow the Department to plan for further assessments of properties. The time frame for implementation of the plan will depend on the availability of the human and financial resources.

Indian and Northern Affairs Canada's response. The Department accepts this recommendation. As per the Treasury Board Contaminated Sites Management Policy, the Department's Northern Affairs Program has an action plan and timetable for addressing contaminated sites. The plan is adjusted on an annual basis to reflect delays due to limited resources.

The Department's Indian and Inuit Affairs Program (IIAP) is currently developing a long-term contaminated sites management plan for the Program. This plan will complement the Department's Contaminated Sites Management Policy and will be linked to its Long-Term Capital Plan and IIAP's Environmental Stewardship Strategy Action Plan. Additionally, IIAP has developed the Web Enabled Data Solution (WEDS) system that tracks, prioritizes, and generates action plans for IIAP's contaminated sites. However, due to the lack of long-term, stable funding, the implementation of this plan will be hindered.

National Defence's response. The Department accepts the recommendation. The requirement to formally prepare contaminated sites management plans is included in the June 2002 Treasury Board policy on the management of contaminated sites. These documents will include action plans and timelines for contaminated sites still in the departmental inventory. Plans will be formalized in fiscal year 2003–04.

Parks Canada Agency's response. As part of our draft environmental management system commitments, Parks Canada plans to complete an assessment of all its sites by March 2006, with a timetable for cleanup by individual parks to be completed by March 2009. As noted in the Report, our ability to meet these targets will depend on the identification of stable funding.

Public Works and Government Services Canada's response. The Department agrees. It has established a target date of 1 July 2003 for completion of a contaminated sites management plan that will contain such an action plan. The extent to which required work will be completed in a timely manner will be commensurate with the financial support received through negotiations with the Treasury Board Secretariat as part of the Annual Reference Level Update estimates process, and through requests for new long-term funding as part of the Cabinet decision-making process.

Royal Canadian Mounted Police's response. The Department supports the recommendation. This commitment will be part of the aforementioned (see the Department's response to the recommendation in paragraph 2.75) Contaminated Site Management Strategy, expected to be completed by April 2003.

Transport Canada's response. Transport Canada accepts the recommendation. In addition to the Environmental Management System target above (see the Department's response to the recommendation in paragraph 2.75), Transport Canada will prepare a departmental management plan for its contaminated sites. The plan, to be completed by 1 July 2003, will be consistent with the Treasury Board Secretariat's Best Practices Advice on Contaminated Sites Management Plans.

2.76 **Recommendation**. **The Treasury Board Secretariat and Environment Canada, in conjunction with all departments and agencies responsible for contaminated sites (Appendix D), should periodically report on a consolidated basis on progress against the action plan.**

Treasury Board Secretariat's response. The Secretariat partially agrees. In keeping with the government's commitment to the principle of ministerial and departmental accountability, the Treasury Board requires departments and agencies to report progress against all commitments, including those related to the remediation and management of contaminated sites, through annual departmental performance reports. In addition, the Federal Inventory of Contaminated Sites is widely available on the Internet and is regularly updated by departments to provide current information on the status of each site.

Environment Canada's response. The Department agrees with and defers to the response by the Treasury Board Secretariat and agrees that the Secretariat should maintain the lead on this aspect of federal contaminated site management.

Canada Customs and Revenue Agency's response. The Agency agrees. It will report on a yearly basis, in conjunction with other federal departments and agencies.

Fisheries and Oceans Canada's response. The Department agrees. It will provide the necessary information required by the Treasury Board Secretariat and Environment Canada. The expected completion date will be as requested by the Treasury Board Secretariat and Environment Canada policy and time frame.

Indian and Northern Affairs Canada's response. The Department agrees with this recommendation. It reports to the Treasury Board on an annual basis regarding the progress being made on all aspects of cleaning up a site (that is, assessment, remediation, monitoring, etc.).

National Defence's response. The Department accepts the recommendation. It has included a target related to contaminated sites (contaminated sites are remediated, under remediation, or risk managed) in its Sustainable Development Strategy (SDS). Progress on this target will be reported through the Department's annual SDS and Performance Report. This action is ongoing.

Parks Canada Agency's response. Parks Canada will continue its ongoing networking with the federal Contaminated Sites Management Working Group to meet its reporting requirements under Treasury Board policy.

Public Works and Government Services Canada's response. The Department agrees. It reports on progress related to contaminated sites targets through its Sustainable Development Strategy and annual Performance Report. We recommend that the Treasury Board Secretariat develop guidelines for reporting on contaminated sites, to be included in their annual Guidelines for Preparation of Departmental Performance Reports. If all federal departments and agencies reported in the same way on their contaminated sites activity through their performance reports, the Secretariat could roll up the data for a consolidated report.

Royal Canadian Mounted Police's response. The Department supports the recommendation. The Contaminated Site Management Strategy, expected to be completed in April 2003, will also include a reporting mechanism to support reporting on a periodic basis.

Transport Canada's response. Transport Canada accepts the recommendation. Its progress will be reported in its annual reports and the annual reports of the Contaminated Sites Management Working Group.

Lessons for the future

2.77 There are two important lessons to be learned from the legacy of federal contaminated sites that Canadians have inherited.

2.78 First, it is far easier and less costly—up to 40 times less expensive in the case of groundwater supply contamination, according to an estimate by the United States Environmental Protection Agency—to prevent environmental damage than to try and correct it after contamination occurs. Preventing contamination and minimizing waste are key to avoiding future contamination and costly cleanup. Pollution prevention is an important element of sustainable development.

2.79 Second, preventive measures will not erase the errors of the past. Contaminated sites under federal responsibility need to be dealt with in a timely manner to reduce the contamination of water, soil, and air, and thus avoid further threats to human health and the environment and allow for productive use of the land.

Conclusion

2.80 Since our audits in 1995 and 1996, the federal government has made only limited progress toward resolving the problem of contaminated sites under its responsibility. Thirteen years after the start of the five-year National Contaminated Sites Remediation Program, it still

- does not know how many of its sites are contaminated;
- does not have a full picture of the risks to human health and the environment and the likely cost of dealing with its contaminated sites; and
- does not have a management framework that incorporates a ranking of the high-risk sites and a long-term action plan for dealing with them in a timely manner.

2.81 As a result, the federal government is unable to assure Parliament and Canadians that it can mitigate the risks that its contaminated sites present. It has not lived up to its statement made in the 1999 Speech from the Throne that it would do more to clean up federal contaminated sites. The government has failed to clean up its own backyard.

2.82 The key issue for the government, and ultimately Parliament, is to make a clear decision on where the issue of dealing with contaminated sites under federal responsibility ranks in priority relative to other demands on the public purse. In any event, it is vital that a firm commitment, including an action plan with a timetable and necessary resources, be made to deal with this issue.

2.83 In our opinion, the federal government needs to deal with the long-standing problem of contaminated sites now. Failure to deal with this government-wide problem will shift the environmental, social, and economic risks and costs to the next generation. This is inconsistent with the federal government's commitment to establish and preserve a healthy and sustainable environment for future Canadians.

2.84 The federal government says it is managing its fiscal deficits to avoid leaving a burden for future generations, and it has stated its commitment to avoid burdening future Canadians with an environmental legacy. Protection of the environment is not a luxury. Our green spaces and diverse habitats and species are part of the heritage we must leave for the future.

About the Audit

Objective

The overall objective of our audit was to assess the federal government's progress since 1995 and 1996 in the management of contaminated sites under federal responsibility. Specifically, we sought answers to the following questions:

- Does the federal government have a complete inventory of the sites it owns or manages that are contaminated?
- Does it have a full picture of the risks the sites pose and the likely cost of dealing with the sites?
- Does it have a management framework for dealing with these sites that includes a long-term action plan for cleaning up the worst sites in order of risk?

Scope and approach

We issued a questionnaire on the management of contaminated sites under federal responsibility to all members of the Contaminated Sites Management Working Group in October 2001, and they all responded. We reviewed and analyzed the responses to the questionnaire. The Working Group currently consists of 15 federal organizations: Agriculture and Agri-Food Canada, the Canada Customs and Revenue Agency, Correctional Service Canada, the Department of Foreign Affairs and International Trade, Environment Canada, Fisheries and Oceans Canada, Health Canada, Indian and Northern Affairs Canada, National Defence, Natural Resources Canada, the Parks Canada Agency, Public Works and Government Services Canada, the Royal Canadian Mounted Police, Transport Canada, and the Treasury Board Secretariat.

At four key departments—Fisheries and Oceans Canada, Indian and Northern Affairs Canada, National Defence, and Transport Canada—we assessed the completeness of their inventory of contaminated sites and the estimated costs of cleaning up or managing their sites. We examined government policies and guidance documents developed mainly by the Treasury Board Secretariat, as well as Environment Canada's role in managing the problem of contaminated sites. We reviewed the Federal Contaminated Sites and Solid Waste Landfills Inventory maintained by the Treasury Board Secretariat.

We studied two major cases—storage tanks on federal lands and the Sydney tar ponds—that illustrate actual or potential environmental, economic, social, or health impacts of contaminated sites. We did not conduct an audit of the Sydney tar ponds but provided information on the federal government's involvement with this site and surrounding area since 1980.

The quantitative information in this chapter has been drawn from the various government sources indicated in the text. Although we checked the information for reasonableness, we did not audit it except where indicated.

Criteria

We expected to observe the following:

- The federal government would have developed a cohesive vision of how its contaminated sites should be assessed and managed, one that would be compatible with its decision to delegate responsibility to custodial departments.
- The government would have developed a central, high-level policy framework for dealing with its contaminated sites. It would also have developed and promulgated common reporting conventions on environmental risks, costs, and liabilities for contaminated sites under federal responsibility.
- The Treasury Board Secretariat would have translated this central, high-level policy framework into practical guidance to be available for custodial departments in identifying, assessing, and analyzing the options and the environmental costs associated with the different options.

- The Treasury Board Secretariat would have provided guidance to custodial departments on the recognition and reporting of environmental liabilities and contingencies.
- Custodial departments would have developed consistent principles, practices, and standards for conducting environmental liability assessments; estimating environmental costs and liabilities; preparing comparable management information; and setting priorities for further assessment or cleanup of their contaminated sites.
- There would have been periodic consolidation and reporting of departmental summary-level information on environmental risks, costs, and liabilities

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Appendix A Contaminants found at federal sites

Federal contaminated sites can contain the following:

- Petroleum hydrocarbons (gasoline, diesel, and motor oil) and polycyclic aromatic hydrocarbons (PAHs) (wood preservatives).
- Heavy metals (zinc, cadmium, lead, mercury, silver, chromium, and arsenic).
- Oxygen-depleting substances (animal manure, human waste, and plant by-products). These substances produce excessive algae, bacteria, and pathogenic organisms.
- Toxic organics (PCBs (polychlorinated biphenyls); chlorinated solvents, such as TCE (trichloroethylene); herbicides; and pesticides, such as DDT (dichloro-diphenyl-trichloroethane)).
- Radioactive substances (uranium, heavy water, radon gas, and cesium).
- Nuisance substances (asbestos, sulphur, iron, methane, sodium, calcium carbonate or calcite, and suspended solids). These substances affect the taste of water and cause odours, explosion hazards, and fouling problems in pipes and treatment systems.
- Explosives (unexploded ordnances).

Source: Federal Contaminated Sites Inventory—Input Guide

Appendix B Sydney tar ponds and surrounding area—Key events and federal contributions since 1980

Year	Key event	Federal contribution (current dollars)
1980	Fisheries and Oceans Canada discovered high levels of PCBs, mercury, lead, and PAHs in the lobsters of Sydney Harbour.	Not requested (part of Department's overall mandate)
1980 to date	Various health risk studies were conducted by the federal government, often in conjunction with others.	$1.9 million[1] +
1982	Fisheries and Oceans Canada shut down lobster fisheries in Sydney Harbour because PAH concentrations exceeded Canadian guidelines.	Not requested (part of Department's overall mandate)
1981-1984	Modernization Agreement - Phase I: a $96 million, federal/provincial agreement was signed to modernize facilities at the Sydney Steel Corporation (SYSCO) located in the Muggah Creek watershed (federal/provincial ratio of 80:20).	$77 million
1986-1991	Modernization Agreement - Phase II: a $157 million, federal/provincial agreement was signed to implement the second stage of the SYSCO modernization program (federal/provincial ratio of 70:30).	$110 million
1986-1991	Sydney Tar Ponds Cleanup Subsidiary Agreement: a $34.2 million, federal/provincial agreement was signed to initiate cleanup of the Sydney tar ponds by the recommended approach—excavation and incineration—(federal/provincial ratio of 70:30).	$24 million
1996	Creation of the Joint Action Group (JAG) - a community-based advisory body was established to recommend acceptable cleanup solutions to the three levels of government. The federal government is an active member; all three levels of government provide funding.	$2.2 million[2]
1998	A Memorandum of Understanding was signed by the three levels of government and JAG, to set out a framework for the participation of all parties.	Not applicable
1999-2003	Cost-Share Agreement: a $62 million, federal/provincial/municipal agreement initially ending March 2002 was signed. The agreement was amended and extended in March 2002 by one year; no additional federal funding was provided. The agreement funded JAG-recommended projects, approved by the three levels of government, to evaluate environmental and health issues associated with the site. (Various cost-sharing ratios apply, but the vast majority is a federal/provincial ratio of 70:30).	$38 million
Total federal contribution		**$253.1 million +**

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[1] Refers to Health Canada's headquarters costs for 1997 to 2002 to support research, requests for risk assessments, and other related costs. Costs of more recent health studies are included in the Cost-Share Agreement.

[2] Refers to funding for 1996-97 and 1997-98. Further funding for JAG has been provided through the Cost-Share Agreement.

Appendix C Federal policies and guidance documents for contaminated sites

Date	Policies	Issued by
1998	Treasury Board Real Property Environment Policy	Treasury Board Secretariat
2000	Treasury Board Federal Contaminated Sites and Solid Waste Landfills Inventory Policy	Treasury Board Secretariat
2002	Policy on Accounting for Costs and Liabilities Related to Contaminated Sites	Treasury Board Secretariat
	Treasury Board Federal Contaminated Sites Management Policy	Treasury Board Secretariat
	Guidance documents	
1997	Preventing Site Contamination at Federal Facilities: A Guidance Manual	Contaminated Sites Management Working Group
	Site Remediation Technologies: A Reference Manual	Contaminated Sites Management Working Group
1999	A Federal Approach to Contaminated Sites	Contaminated Sites Management Working Group
	Environmental Guide for Federal Real Property Managers	Treasury Board Secretariat
	Canadian Environmental Quality Guidelines (periodically updated)	Environment Canada/Canadian Council of Ministers of the Environment
	Draft Guideline on Liabilities and Contingent Liabilities Related to Federal Contaminated Sites (draft, revised in 2000)	Subgroup of the Contaminated Sites Management Working Group
2000	Federal Contaminated Sites Inventory – Input Guide (*Technical Document for implementing the Contaminated Sites and Solid Waste Landfills Inventory Policy*)	Treasury Board Secretariat
	Federal Solid Waste Landfills Inventory – Input Guide (*Technical Document for implementing the Contaminated Sites and Solid Waste Landfills Inventory Policy*)	Treasury Board Secretariat
2001	Canada-wide Standards for Petroleum Hydrocarbons in Soil	Environment Canada/Canadian Council of Ministers of the Environment
2002	Best Practices Advisory: Contaminated Sites Management Plans	Treasury Board Secretariat
	Best Practices Advisory: Federal Brownfields	Treasury Board Secretariat
	Best Practices Advisory: Environmental Considerations in Real Property Transactions	Treasury Board Secretariat

Appendix D Departments and agencies responsible for contaminated sites

Agriculture and Agri-Food Canada

Canada Customs and Revenue Agency

Correctional Service Canada

Department of Foreign Affairs and International Trade

Environment Canada

Fisheries and Oceans Canada

Health Canada

Indian and Northern Affairs Canada

National Defence

Natural Resources Canada

Parks Canada Agency

Public Works and Government Services Canada

Royal Canadian Mounted Police

Transport Canada

Treasury Board Secretariat

Report of the
Commissioner of the Environment and Sustainable Development
to the House of Commons—2002

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2002

Report of the

Commissioner of the Environment and Sustainable Development

to the House of Commons

Chapter 3

Abandoned Mines in the North

Office of the Auditor General of Canada

The 2002 Report of the Commissioner of the Environment and Sustainable Development comprises six chapters and The Commissioner's Perspective—2002. The main table of contents is found at the end of this publication.

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Chapter

3

Abandoned Mines in the North

The audit work reported in this chapter was conducted in accordance with the legislative mandate, policies, and practices of the Office of the Auditor General of Canada. These policies and practices embrace the standards recommended by the Canadian Institute of Chartered Accountants.

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Abandoned Mines in the North

Main Points

3.1 Hundreds of thousands of tons of highly toxic chemicals such as arsenic and cyanide are found at northern abandoned mine sites. These chemicals, the result of past mining operations, have accumulated to hazardous levels. Indian and Northern Affairs Canada estimates that the cleanup and closure of these complex contaminated sites will cost Canadian taxpayers at least $555 million. In many cases, long-term site management will be needed because complete and definitive cleanup will not be possible.

3.2 Every year, Indian and Northern Affairs Canada spends millions of dollars in an effort to stop contaminants from escaping these sites. This year alone, the Department has budgeted up to $26 million to prevent water contamination and protect human health and the environment.

3.3 This current care and maintenance approach is a band-aid approach that does little to solve the problems in the long term. Further, considering the rapidly growing costs associated with delaying decisive action, it is not an optimal use of public funds. With insufficient financial resources, the Department is scrambling to keep up with the demands. Long-term stable funding and long-term solutions are required.

3.4 In the past, the Department did not collect sufficient financial security from mining companies operating in the North to cover the costs for the eventual cleanup and closure of mine sites. Prior to 1993, there were legislated limits to the amount of financial security that could be collected. These restrictions were removed in 1993. Since then, Indian and Northern Affairs Canada has progressively increased the amount of financial security required from owners of operating mines in the North. Its objective is to obtain full financial security for all mining projects.

3.5 The Department reported that full financial security is being achieved for the two new diamond mines. However, it may not be possible for some older mines still in operation. If these older mines are abandoned, Canadian taxpayers will end up paying the difference for their cleanup and closure.

3.6 The Department's challenge of addressing the problems of northern abandoned mines is two-fold:

- cleaning up the environmental mess it has inherited from the past; and
- ensuring that mining companies operating in the North pay for the cleanup of the environmental problems they create now and in the future.

Background and other observations

3.7 As the key federal department in Canada's north, which includes the Yukon, Northwest Territories, and Nunavut, Indian and Northern Affairs Canada has a broad mandate. It is the land administrator on behalf of the federal government, a key promoter of economic development, and a contributor to the protection of the environment. The Department also has responsibilities for Aboriginal peoples, primarily for Status Indians living on reserve and Inuit.

3.8 An abandoned mine is one whose owner is out of business. When a northern mine is abandoned, the land lease reverts back to the federal government, and Indian and Northern Affairs Canada inherits the associated environmental costs and the day-to-day management responsibility for the mine.

3.9 Over recent years, the Department has made progress toward establishing a comprehensive program to deal with contaminated sites in the North, including abandoned mines. Officials of the Department indicated that full implementation of the related draft management framework will depend on available human and financial resources.

3.10 The method chosen by Indian and Northern Affairs Canada to ensure that mining companies pay for the eventual cleanup of mine sites is the collection of financial security deposits from them prior to start-up and while they are in operation. If a mining company conducts the proper cleanup and closure of its mine site, the financial security collected by the Department is returned.

The Department has responded. Indian and Northern Affairs Canada agrees with our recommendations. The Department has provided us with a clear description of the specific actions it will take to address our recommendations, including time frames within which these actions are to be completed, where appropriate.

Introduction

The issue

3.11 Some abandoned mines in the North represent a serious threat to human health and the environment. As a result of past mining operations, toxic chemicals and acidic mixtures have accumulated over time and have the potential to pollute groundwater and surface water. These chemicals are contained in structures that are deteriorating rapidly and that require regular repairs. In some cases, time is running out, and there could be significant environmental damage if nothing is done.

3.12 Each year, Indian and Northern Affairs Canada spends millions of dollars to contain pollutants inside abandoned mine sites. However, this level of effort is insufficient to provide long-term solutions. At the same time, the Department is taking measures to ensure that new mines do not leave behind environmental problems whose cleanup will be paid for by Canadian taxpayers. Reaching full financial security will likely not be possible for some older mines still in operation. If these older mines are abandoned, Canadian taxpayers will end up paying the difference for their cleanup and closure.

The federal role

3.13 Indian and Northern Affairs Canada is the key federal department in northern Canada (Yukon, Northwest Territories, and Nunavut) and is the land administrator on behalf of the federal government and all Canadians. It has a broad mandate that includes promoting economic development and protecting the environment. The Department also has responsibilities for Aboriginal peoples, primarily for Status Indians living on reserve and Inuit.

Abandoned mine A mine site that has not been properly cleaned up and closed down and whose ownership has reverted to the federal government because the owner has gone out of business.

3.14 Since 1999, large, heavily contaminated northern mine sites abandoned by bankrupt owners have become the Department's responsibility. The Department must carry out the care and maintenance of these abandoned mines until it can implement long-term solutions, such as conducting site cleanups and installing appropriate containment structures and technologies. For a number of other northern mine sites that are not yet legally considered abandoned, the federal government is currently paying all or a significant portion of the care and maintenance costs and will pay for their eventual cleanup.

Mining in the North

Did you know?

Mining's rank as a waste-generating industry in North America: **second, just behind agriculture**.

3.15 The mining industry in the North dates back to the 1800s and the discovery of gold. Because the land is rich in minerals, mining remains an important industrial activity. However, it causes land disturbances and wastes that can have negative impacts on the environment, particularly on water, if proper care is not taken.

3.16 The protection of the environment in Canadian law is relatively new, dating back to the 1970s when concerns over pollution problems started to be raised. Thus, the mining industry operated for many years in the North without having to follow strict environmental protection rules. This led to some local pollution problems.

Permafrost at the Giant Mine in 1955

Permafrost on the walls underground at the Giant Mine in 1955. At that time, rock temperatures never rose above the freezing point, not even in mid-summer.

Source: Mining Explained in Simple Terms, 1963

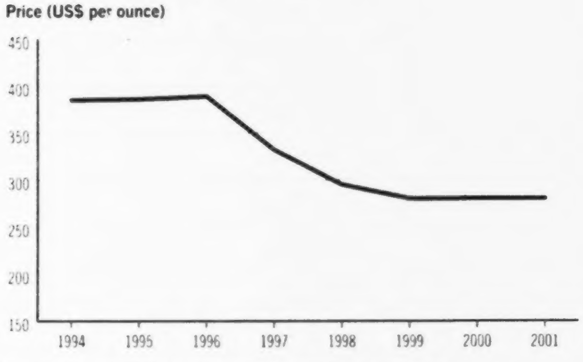
3.17 Basic scientific information and current research on the North are insufficient to fully predict the impacts of environmental changes in the North and to develop comprehensive technical solutions to address them. The assumption that permafrost (permanently frozen ground) could be relied on to stay frozen played a key role in engineering designs of many mines in the North. However, indications are that climate change is affecting the North more than other parts of Canada. Warming temperatures have caused permafrost to melt, which has led to structural damage of mine sites as well as buildings, electrical and telephone lines, and pipelines.

3.18 Mining is an important part of the economy in Canada. It contributes about $37.5 billion, or four percent, to Canada's gross domestic product (GDP). The presence of the mining industry is felt even more in the North: in the late 1980s and early 1990s, it produced about 25 percent of the GDP in the territories. In 1998, this was down to about 15 percent in the Northwest Territories and 7.5 percent in the Yukon. In a northern economy that lacked diversification, the well-paid mining jobs were important so there was pressure on the government to continue to support mining projects. Today, due to new diamond mine activities and increased oil and gas development, economic growth in the North is among the highest in Canada.

Mining is a risky business

3.19 The profitability of a mine depends on a number of factors, such as the location of the mine site, the cost of labour, the size of mineral reserves, and especially the market price. Exhibit 3.1 illustrates the decline in the price of gold during the 1990s. In 1999, major northern mines went bankrupt and were abandoned. Indian and Northern Affairs Canada, in its role of land administrator for the federal government, ended up being responsible for them. Currently, there are six older mines still in operation in the North. One new diamond mine opened recently and another is scheduled to open during 2003.

Exhibit 3.1 North American gold prices—1994 to 2001



Source: U.S. Geological Survey, Mineral Commodity Summaries

3.20 Because mining is a risky business, the federal government plays an important role in protecting the interests of Canadian taxpayers in the North. To this effect, Indian and Northern Affairs Canada is responsible for ensuring the application of federal legislation that authorizes the collection of financial security deposits. The security deposits cover the eventual costs of repair, maintenance, cleanup, and closure of mines that the Department would have to assume should the mine owners go bankrupt. If a mining company conducts the proper cleanup and closure of its mine site, the financial security collected by the Department is returned.

3.21 The *Northern Inland Waters Act* of 1972 provided for only partial financial security. It was replaced in 1993 by the *Yukon Waters Act* and the *Northwest Territories Waters Act*, which authorize the collection of full financial security related to water impacts. In 1998, the *Mackenzie Valley Resource Management Act* was passed. It deals with natural resource management in the Mackenzie River Valley and has provisions for the collection of financial security. Earlier this year, new water legislation for Nunavut was passed: the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. It also authorizes the collection of financial security.

3.22 Under these laws, mining projects must obtain a water licence from one of the water boards. The boards are responsible, as part of a water licence, for setting conditions to minimize negative effects on the water resource and setting the amount of financial security required. Water licences have been the main vehicle for establishing financial security requirements. For major projects, such as hard-rock mining projects, the Minister of Indian and Northern Affairs must approve the water licence. Financial security can also be obtained from mining companies through other means: land leases, environmental agreements, and other contracts. Through these contractual arrangements, financial security for impacts other than those related to water can be included, such as land-related impacts.

Did you know?

[illegible] from mining companies operating in the North: **about $4.16 million** [illegible]

3.23 In addition, the Canada Mining Regulations under the *Territorial Lands Act*, the *Yukon Quartz Mining Act*, and the *Yukon Placer Mining Act* require that mining companies operating in the North pay royalties to the federal government. Royalties are payments by mining companies for minerals extracted and vary with profitability. Unlike security deposits, royalties are not collected to cover eventual cleanup costs of mine sites; instead they go into the federal government's consolidated revenue fund.

Focus of the audit

3.24 Our audit focussed on examining the progress that Indian and Northern Affairs Canada has achieved in managing northern abandoned mines over the last several years through its Northern Affairs Program. The audit covers hard-rock mining only, which is mining that extracts the mineral from solid rock by drilling or blasting. We asked the following questions:

- Does the Department have a program in place to identify, assess, and manage abandoned mines, and determine priorities and costs?

- Does the Department have the necessary systems, policies, procedures, and standards to deal with abandoned mines?
- Is the Department doing enough to ensure that currently operating and future mines in the northern territories do not become a financial burden on Canadian taxpayers?
- Is the Department collecting sufficient financial security from mining companies to cover all costs associated with care and maintenance, cleanup, and closure if they abandon their mines?
- Is the Department conducting the necessary inspections to ensure that it can enforce water licence terms and conditions adequately?

3.25 In addition to interviewing the Department's regional and headquarters staff and conducting file reviews, we visited four mine sites: the Giant and Colomac mines in the Northwest Territories and the Faro and Mount Nansen mines in the Yukon. More information on our audit objectives, scope, approach, and criteria are provided in the section About the Audit at the end of the chapter.

Observations and Recommendations

Did you know?

Total estimated cost of dealing with all of the Department's contaminated sites in the North **$723 million**

Estimated cost of cleaning up and closing northern abandoned mines: **$555 million**

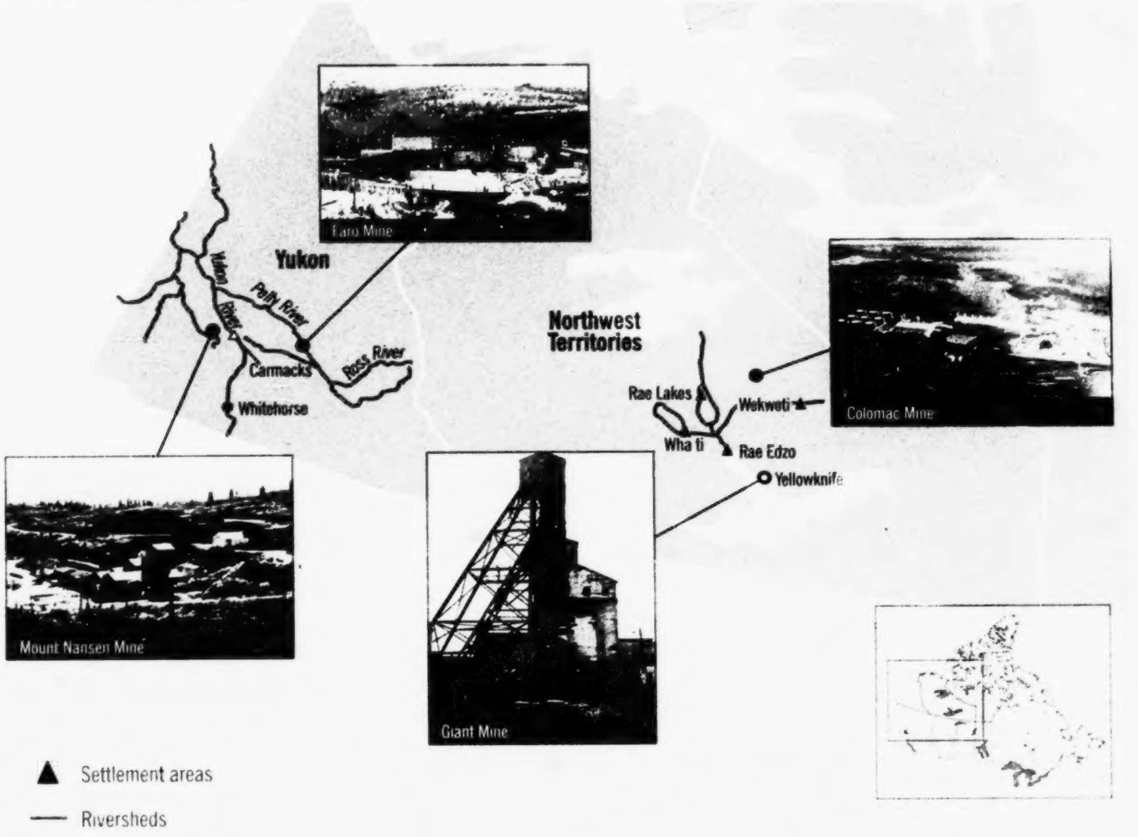
3.26 Indian and Northern Affairs Canada has a list of 17 northern abandoned mines that are considered high-priority contaminated sites, each with its own set of challenges. Three of the sites have been cleaned up and now require only ongoing monitoring. For the remaining 14 sites, the Department has assigned priorities and it annually reviews the allocation of the funds to manage them. Four of these sites are in the Yukon and 10 are in the Northwest Territories. The appendix lists the abandoned mine sites in the North that require or could require cleanup action, based on information the Department has provided to the Treasury Board Secretariat. See Chapter 2, The Legacy of Federal Contaminated Sites for further details on the requirement for departments to provide information on their contaminated sites to the Treasury Board Secretariat.

A closer look: Four abandoned mines

3.27 We visited four recently abandoned mines in the North: Colomac, Giant, Faro, and Mount Nansen (Exhibit 3.2). Two of these mines are not fully abandoned yet. The Giant Mine was sold by Indian and Northern Affairs Canada to a private company, and the Faro Mine is still managed by a court-appointed interim receiver. However, the Department is paying all or a significant portion of the environmental care and maintenance costs of these four mines and has assumed responsibility for their cleanup. We chose these sites because they represent a major portion (almost 90 percent) of the Department's environmental and financial burden caused by northern abandoned mines.

Receiver—A person licensed under the terms of the *Bankruptcy and Insolvency Act* to take charge of a company and who may temporarily carry on the business or sell the assets.

Exhibit 3.2 The four mines we visited


Yukon
Northwest Territories
Yukon River
Pelly River
Ross River
Carmacks
Whitehorse
Faro Mine
Mount Nansen Mine
Colomac Mine
Giant Mine
Rae Lakes
Wekweti
Wha Ti
Rae Edzo
Yellowknife
Settlement areas
Riversheds

3.28 Exhibit 3.3 provides descriptive details on the four mines, including the amount of money the Department is spending on care and maintenance, its estimates of cleanup, and the amounts collected as security deposits from mining companies while the mines were operating.

Cyanide [illegible]

3.29 **Colomac Mine.** The most pressing environmental problem at the Colomac Mine site is the mine waste containment area. This area is made up of three lakes, with a total surface of about 76 hectares—an area as big as 93 Canadian football fields. Precipitation and snowmelts are accumulating in this area, and concentrations of contaminants (such as [illegible] metals, and ammonia) in the water are much too high to release into the environment without treatment.

Tailings containment area at the Colomac Mine

3.30 This is an urgent problem. Currently, there is no single treatment process available that can adequately reduce all of the contaminants. The Department estimates that choosing treatment options, obtaining the regulatory approvals, and constructing a water treatment plant would take up to four years, about the same length of time as it will take for the mine waste containment area to reach its full capacity.

Abandoned mines—**Four case studies**

	Colomac Mine	**Giant Mine**	**Faro Mine**	**Mount Nansen Mine**
Description	Open-pit gold mine	Underground and open-pit gold mine	Open-pit lead and zinc mine	Open-pit gold and silver mine
Location	222 km north of Yellowknife, Northwest Territories. Only accessible by air or ice roads.	5 km north of Yellowknife, Northwest Territories (population of 16,541).	15 km north of Town of Faro, Yukon (population of 313) and 200 km northeast of Whitehorse, Yukon (population of 21,405).	60 km west of Carmacks, Yukon (population of 431) and 180 km north of Whitehorse, Yukon.
Period of operation	From 1990 to 1997, with a three-year interruption.	From 1948 to 1999, the mine operated as an underground and open-pit mine and mill. From 1999 to present, it operated only as an underground mine, with ore trucked off-site.	From 1969 to 1998, with a four-year interruption.	From 1968 to 1969, from 1975 to 1976, and from October 1996 to February 1999.
Last owner	Royal Oak Mines went into receivership[1] in April 1999.	Royal Oak Mines went into receivership in April 1999. Miramar is the present owner while Indian and Northern Affairs Canada currently pays 69 percent of all care and maintenance costs.	Anvil Range Mining Corp. went into receivership in April 1998.	BYG Resources went into receivership in February 1999.
Date Indian and Northern Affairs Canada assumed responsibility for the site	December 1999	December 1999 The Department sold it to Miramar, but kept the responsibility for the cleanup of the underground mine workings.	July 1998 The receiver is now managing the site. The Department was reimbursing the majority of care and maintenance costs, and since April 2001 has been reimbursing all of them. Once the receiver concludes the estate administration, the Department is to inherit this site.	August 1999
Amount the Department spent on care and maintenance	$11.3 million from December 1999 to April 2002 (includes some cleanup work, assessment studies, and monitoring).	$1.2 million from April 2001 to April 2002.	$14 million from July 1998 to April 2002 (includes some cleanup work).	$4 million from August 1999 to April 2002.

Exhibit [illegible] **Abandoned mines—Four case studies**

	Colomac Mine	Giant Mine	Faro Mine	Mount Nansen Mine
Department's cost estimates for cleanup	$70 million	$52.8 million to $399.9 million, depending on option selected.	At least $200 million	$6.3 million
Amount of financial security collected from owner	$1.5 million	$400,000 from Royal Oak Mines and $7 million from Miramar.	$14 million	$445,000
Main environmental problem	Mine waste area is filling up with water that is contaminated with ammonia, cyanide, and metals. There is potential for a dam failure.	237,000 tons of arsenic trioxide dust are stored in underground chambers. Water coming in contact with the chambers is being contaminated with arsenic and is pumped to surface, treated, and released.	Water is contaminated with acid and metals (zinc) and requires continuous treatment. There is potential for a dam failure.	Water is contaminated with arsenic, cyanide, and metals and requires continuous treatment. There is potential for a dam failure.

Receivership: The status of a company whose affairs have been put in the hands of a receiver [illegible]

Note: Indian and Northern Affairs Canada provided the financial information in this exhibit.

Colomac mine site from the air

Large fuel storage containers (left) are leaking into the lake. Heavy equipment and hazardous materials have been abandoned at the mine site.

3.31 If the dam containing the waste fails, an uncontrolled discharge of contaminated water will enter the Indin River system. This system is the water supply source for Dogrib First Nations communities located downstream, and the Indin Lake has a spiritual significance to the community. Departmental officials recognize the potential liability of a dam failure, which could be catastrophic to the environment, and that immediate action is needed.

3.32 The Department estimates the cost of cleaning up the Colomac Mine at about $70 million. Only $1.5 million in security deposits was collected for this mine when it was in operation. This leaves a gap of $68.5 million that the federal government will have to pay. The mine has not generated any royalties to the government.

3.33 **Giant Mine.** The Giant Mine is perhaps the most publicized contaminated site in northern Canada. The processing of ore to extract gold at this mine produced at least 237,000 tons of [illegible] dust, enough to fill seven 11-storey buildings. During the first three years of operation, the toxic by-product was released directly into the air, resulting in significant contamination of the mine site.

[illegible]

3.34 In 1951, the mine operator decided to capture and store the arsenic trioxide underground. This was considered to be a permanent solution on the assumption that permafrost would re-establish itself underground and hold the arsenic trioxide in place. This assumption is now proving to be wrong.

Exhibit 3.3 **Abandoned mines—Four case studies**

	Colomac Mine	**Giant Mine**	**Faro Mine**	**Mount Nansen Mine**
Department's cost estimates for cleanup	$70 million	$52.8 million to $399.9 million, depending on option selected.	At least $200 million	$6.3 million
Amount of financial security collected from owner	$1.5 million	$400,000 from Royal Oak Mines and $7 million from Miramar.	$14 million	$445,000
Main environmental problem	Mine waste area is filling up with water that is contaminated with ammonia, cyanide, and metals. There is potential for a dam failure.	237,000 tons of arsenic trioxide dust are stored in underground chambers. Water coming in contact with the chambers is being contaminated with arsenic and is pumped to surface, treated, and released.	Water is contaminated with acid and metals (zinc) and requires continuous treatment. There is potential for a dam failure.	Water is contaminated with arsenic, cyanide, and metals and requires continuous treatment. There is potential for a dam failure.

[1] Receivership: The status of a company whose affairs have been put in the hands of a receiver because it is unable to pay its bills and meet other obligations.

Note: Indian and Northern Affairs Canada provided the financial information for this exhibit.

Colomac mine site from the air

Large fuel storage containers (left) are leaking into the lake. Heavy equipment and hazardous materials have been abandoned at the mine site.

3.31 If the dam containing the waste fails, an uncontrolled discharge of contaminated water will enter the Indin River system. This system is the water supply source for Dogrib First Nations communities located downstream, and the Indin Lake has a spiritual significance to the community. Departmental officials recognize the potential liability of a dam failure, which could be catastrophic to the environment, and that immediate action is needed.

3.32 The Department estimates the cost of cleaning up the Colomac Mine at about $70 million. Only $1.5 million in security deposits was collected for this mine when it was in operation. This leaves a gap of $68.5 million that the federal government will have to pay. The mine has not generated any royalties to the government.

3.33 **Giant Mine.** The Giant Mine is perhaps the most publicized contaminated site in northern Canada. The processing of ore to extract gold at this mine produced at least 237,000 tons of arsenic trioxide dust, enough to fill seven 11-storey buildings. During the first three years of operation, this toxic by-product was released directly into the air, resulting in surface contamination of the mine site.

Arsenic trioxide—A white, odourless, tasteless powder (also known as crude arsenic) which is a poisonous and cancer-causing chemical.

3.34 In 1951, the mine operator decided to capture and store the arsenic trioxide underground. This was considered to be a permanent solution on the assumption that permafrost would re-establish itself underground and seal the arsenic trioxide in place. This assumption is now proving to be wrong.

Snowmelt and storm water entering the mine are being contaminated with arsenic and the water is being captured and treated.

Contaminated shore line of Great Slave Lake

Commissioner of the Environment and Sustainable Development staff observe a beach area contaminated with arsenic from the Giant Mine.

3.35 In addition to surface and sub-surface contamination, there are hazardous materials and dangerous goods around the Giant Mine site. In April 2001, a hazardous waste management plan was developed and is being implemented by the current owner. During our field visit in September 2001, we observed that there was still a significant amount of cleanup work needed.

3.36 Indian and Northern Affairs Canada commissioned a human health risk assessment of the Giant Mine in 2001. The risk assessment concluded that in the absence of an operating water collection and treatment system, the mine would release unacceptable amounts of arsenic into the surrounding fresh water. This could significantly increase the risks of cancer to people in the area should they drink contaminated water and consume substantial quantities of contaminated fish and ducks. However, those risks are controlled because a water collection and treatment system is in place. Moreover, drinking water for the city of Yellowknife comes from another source.

3.37 The Department is considering four alternatives ranging from $52.8 million to $399.9 million to manage the arsenic trioxide problem. These include the following: leaving the arsenic trioxide dust underground and freezing the bedrock around it; removing the dust to the surface and recovering both the gold and the arsenic trioxide for sale; removing the dust to the surface, recovering the gold, and then stabilizing the arsenic; or removing the dust to the surface and stabilizing it. Regardless of the method used to store or remove the underground arsenic, water that leaves the mine area will likely require treatment forever.

Acid rock drainage—[illegible] potentially cause damage to [illegible] drainage [illegible] mining of coal, copper, [illegible] metals, and precious metals.

3.38 **Faro Mine.** The Faro Mine was one of the largest open-pit lead and zinc mines of its day in Canada. The mine has several sources of acid rock drainage, which has led to heavy contamination of surface water by metals, particularly zinc. Ongoing collection and treatment of the contaminated surface water is necessary. On a number of occasions, the interim receiver had to take action to prevent or deal with uncontrolled discharges of contaminated water in nearby water courses. A March 2001 study commissioned by Indian and Northern Affairs Canada indicated that groundwater in the area had not been contaminated.

Vangorda Pit at the Faro Mine

High zinc levels in the water are a pressing problem.

3.39 According to Environment Canada and Fisheries and Oceans Canada, the acid-generating material on-site, if not properly stabilized, has the potential to release metals into the Pelly River for centuries to come. The Pelly River supports salmon and is a tributary of the Yukon River, which drains into the United States.

3.40 Up until late 2001, the Department continued to explore the economic potential of parts of the Faro Mine before deciding to close it for good. It finally concluded that the mine was no longer economically viable. The Department informed us that scientific studies are now required to resolve technical uncertainties related to the cleanup of this site before completing

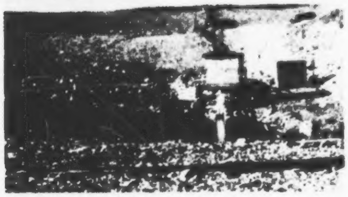
Did you know?

Proportion of the Yukon's economy accounted for by the Faro Mine when it was operating fully
25 percent

the closure plan. Because of the characteristics of this mine, and the nature and size of the contamination, this site will likely require long-term management, even after cleanup.

3.41 **Mount Nansen Mine.** There has been intermittent exploration around the Mount Nansen Mine since 1917. Two attempts at exploiting this site, one in the sixties and the other in the seventies, both failed within two years. In 1996, mining was attempted for the third time. This time, the mine was supposed to operate for four years; however, once again, it shut down after just over two years of operation. Today, further mining would not be economically feasible.

3.42 The last mining operation at this site left behind an environmental mess and did not put up enough financial security to deal with the environmental problems. Indian and Northern Affairs Canada is currently spending $1.5 million a year for the care and maintenance of this site. Furthermore, the mine generated no royalties to the federal government. This is not sustainable development.



Seepage collection pond at the Mount Nansen Mine

The pond collects water contaminated with cyanide leaking from the tailings containment area.

3.43 The owner of the Mount Nansen Mine failed to meet its water licence requirements, almost from the start of construction in 1996. Between May 1997 and July 1999, the Department issued the owner 11 compliance directions under provisions of the *Yukon Waters Act*. The owner was found guilty of three infractions and fined $300,000. The Department could have closed down the mine but did not.

Compliance direction — An order by a water inspector of Indian and Northern Affairs Canada for specific action to protect the environment

3.44 Over the short period of time this mine was operating (1996-1999), 10 different environmental co-ordinators worked for the mining company at the site. This resulted in a lack of continuity in the management of environmental matters and made it difficult for the Department's inspectors to do their work.

Did you know?

Amount the Department spends annually on fuel alone at the Colomac and Mount Nansen abandoned mines to run equipment that collects or treats contaminated water **$940.000**

3.45 According to departmental officials, this mine site could be cleaned up to acceptable standards within three years for less than $6.3 million. However, officials stated that they do not have the necessary funds for the cleanup and cannot do it right away because of legal issues that still need to be resolved; further, such a cleanup project would trigger an environmental assessment. While the final cleanup is delayed, and the Department continues to spend money on care and maintenance, the amount of Canadian taxpayers' money spent on this site continues to grow.

Federal government actions

3.46 Dealing with the problems of northern abandoned mines is complex and costly due to the size and nature of the contamination and the technical difficulties involved in the cleanup. We examined the Department's programs to determine if it has the capacity to deal with the legacy of abandoned mines and ensure that currently operating and future mines do not become part of that legacy.

Gaps in capacity and policy have caused delay

3.47 **Insufficient capacity.** The Department has staff dedicated to handling northern contaminated sites, but not enough resources to match the size of the problem. With the addition of major abandoned mines, such as our four case studies, departmental officials acknowledge that the situation has become dramatically worse since 1998. The management structure currently dealing with abandoned mines is both diffuse and inconsistent; no single entity within the Department has been given the lead, and there is no standard approach to managing the sites. The Department was not prepared for this situation and is having serious difficulties keeping up with the demands.

3.48 **Contaminated Sites Management Policy.** In 1996, the Auditor General reported that the federal government needed a comprehensive environmental policy including a cleanup action plan to ensure a consistent approach in dealing with federal contaminated sites. Since then, Indian and Northern Affairs Canada has drafted its own policy, based on the draft Contaminated Sites Management Policy of the Treasury Board. In addition, in February 2001, the Department started to develop a long-term management plan for contaminated sites and abandoned mines in the North, including a management framework. However, neither the policy nor the framework elaborates sufficiently on abandoned mines, even though they represent the major portion of the Department's contaminated site problems.

3.49 In our view, a policy is the central piece of an organization's management system because it defines senior management's direction and commitment. Officials of the Department said they had been waiting for the Treasury Board Secretariat to finalize the government-wide policy on contaminated sites to ensure that the Department's policy is consistent with it. Given the urgency of the situation, we did not view this as reason enough for the Department's further delay. The government-wide policy was recently completed in July 2002. In the meantime, officials of the Department indicated that their draft Contaminated Sites Management Policy had been guiding their actions. The policy was finally approved in late August 2002.

3.50 The situation is different in the Yukon. On 1 April 2003, administration and control of land and resources will be transferred from the federal government to the Yukon government. However, the federal government will retain the financial responsibilities related to implementing abandonment and restoration plans for abandoned mines, such as Faro and Mount Nansen. Management regimes for these mine sites are currently being developed by the federal government along with the Yukon government and affected First Nations.

3.51 **Mine site closure policy—What took so long?** The Department had been developing the Mine Site Reclamation Policy for the Northwest Territories since the late 1980s. The Department made several commitments to deliver such a policy—for example, in the two sustainable development strategies it has developed since 1997. It finally released two policies at the end of our audit: one for the Northwest Territories and the other for Nunavut. These policies are a critical tool as they will guide all parties in specifying requirements and determining related costs of mine site cleanups and closures, and setting financial security at appropriate levels.

3.52 A mine site closure policy, similar to those for the Northwest Territories and Nunavut, is being developed for the Yukon. Since the legislative base is different in the Yukon, this policy must harmonize with the regulatory requirements of the *Yukon Quartz Mining Act*. Provisions for collecting sufficient financial security to cover terrestrial disturbances are to be included in the Yukon Mine Production and Reclamation Regulations under the *Yukon Quartz Mining Act*. These draft regulations also cover issues not addressed by water licences, such as land use and mining processes.

3.53 The regulations under the *Yukon Quartz Mining Act* have been in development since 1996 and are to ensure that mine closures meet appropriate standards. This is another commitment the Department made in its sustainable development strategy that it still has not met. In 1994, a departmental internal audit examining land and water resource issues associated with mining activities in the Yukon identified the urgency of developing these regulations to avoid having to pay for the cleanup of mines eventually abandoned. However, the Department said that it is unlikely that these regulations will be completed because of the transfer of responsibilities now being negotiated with the Yukon territorial government.

3.54 Even though the Department has just recently released the mine site closure policies for the Northwest Territories and Nunavut, we acknowledge that it has made good progress since 1997 in increasing the financial security from operating and new mines. However, we also note that while the policies were being developed, the Mount Nansen and Colomac mines experienced costly financial failure. Earlier implementation of the policies could have protected Canadian taxpayers.

3.55 **Guidelines for planning mine closures are outdated.** Mine site closure plans provide important information for determining the anticipated cleanup costs and security deposit requirements. Part of applying for a water licence under the territorial waters acts of 1993 is the applicant's obligation to submit a mine site closure plan. Water boards do not require a fully detailed plan initially; a partial plan is acceptable. However, water boards set a date for the applicant's completion of a detailed closure plan.

3.56 For one mine, the water licence approved in 1995 required the submission of a detailed closure plan by 1998. We observed that the mine did not submit the final plan until 2001, and this plan is still awaiting final approval, pending completion of an environmental assessment. Officials of the Department noted several deficiencies with the final plan. In our view, it would be good practice to require detailed plans from mining companies as early as possible after a mine is approved.

3.57 In 1992, a consulting company working for the Department developed mine site closure guidelines for application in the Yukon and Northwest Territories administrative regions. In 1995, the Yukon regional office prepared draft updated guidelines but never finalized them. It will be important to update the 1992 guidelines to support the new mine site closure policies for the Northwest Territories and Nunavut and the Yukon's mine site closure policy when it is released.

Transferring costs back to the private sector

3.58 Creative and interim solutions are partial and short-term. Considering the Department's limited resources currently available, its most creative and constructive alternative is to try to minimize the costs to the federal government by finding new owners for abandoned mines that still have the opportunity to make a profit. However, abandoned mines often have serious environmental issues associated with them. It is therefore not easy to find a private owner interested in reopening a mine and, at the same time, willing to assume all or a portion of the costs for cleaning up the environmental mess left by others. As such, finding private owners tends to be only a partial and short-term solution.

3.59 One mine site in the Yukon Territory is an example of new ownership. This mine became the responsibility of Indian and Northern Affairs Canada in January 2001, and as of September 2001 a new private owner is in place. Although the new owner is paying for the required water treatment at the site, the owner does not yet have a water licence. Nor has the owner paid any of the $250,000 security deposit associated with the previous licence. At the time of the audit, the Department stated that it would consider taking enforcement action against the owner for using water and depositing waste in water without a licence.

3.60 Another example of new ownership is the Giant Mine. In December 1999, soon after the Department inherited this mine, it sold it for $10 to a private company. The deal was such that the company could operate the mine and extract gold but was required to pay for keeping the mine in full compliance with environmental requirements. The Department was to retain the responsibility for site cleanup, including the arsenic trioxide dust problem. This agreement kept 50 jobs at the site. After renegotiating the agreement with this company, since January 2002 the Department has been reimbursing the company 69 percent of the cost of environmental care and maintenance, amounting to $300,000 each month.

Will there be enough money?

3.61 Security deposits in the past—A serious gap. As noted in Exhibit 3.3, for the four mines that we visited there is a serious discrepancy between the amount of security deposits collected from private mine operators and the amount of money now required for the mines' cleanup and closure. In fact, security deposits collected are not even enough to cover the amount the Department has spent to date on care and maintenance costs. For older mines, such as the Giant Mine established in 1948, the gap in security deposits is the result of legislative limits to the amount of security that could be collected. Full financial security coverage has been possible only since 1993.

3.62 Indian and Northern Affairs Canada is accountable on behalf of all Canadians for assuming risks if financial assurance is inadequate. In the case of newer mines that have been recently abandoned, such as Mount Nansen in 1999, it is clear that there was not enough security set aside. There is a major gap between the amount set by the Water Board when it issued the water licence for Mount Nansen and the amount required to clean up the site today.

3.63 Water licences are renewed, on average, every seven years. Recently, the Water Board renewed two water licences for mines in Nunavut without seeking the Minister's approval. Departmental officials indicated that they were concerned about this situation that arose because the Nunavut Water Board believed that the Minister's approval was not required. The recent *Nunavut Waters and Nunavut Surface Rights Tribunal Act* now makes it clear that the Minister's approval must be obtained.

3.64 **New security deposit policy now in place.** In September 2001, the Policy for Security Deposits, Manual of Water Policy Statements was finalized. This policy clarifies the principles to be followed by the Department in establishing a recommendation to the Water Board for financial security to cover impacts on water resources. The document specifies that the amount should cover the costs necessary for the federal government to restore an abandoned mine site at any point during the life of a project, such that there are no costs to the public. This includes the costs of ongoing measures required to maintain sites during periods of temporary closure. We were surprised to see that such a policy was not prepared earlier to support the water legislation of 1993, but we are encouraged to see that it is now in place. We believe it would be good practice for the Department to ensure that the respective water boards are fully aware of departmental policy.

3.65 **Closing the financial security gap for operating mines.** In 1993 the legislative limits to the amount of financial security that could be collected were removed. Between 1997 and 2002, licence requirements increased the amount of security on deposit. However, for some currently operating mines, a shortfall still remains between the amount of security required by the water licences and the amount that the Department estimates it will cost to clean up the mines should they be abandoned before being adequately cleaned up. Officials of the Department said that the objective is to achieve full financial security, but they recognize that this may not be possible for some older mines still operating.

3.66 **Learning from past mistakes.** For two new diamond mines in the North, Indian and Northern Affairs Canada has initiated new procedures to increase the amount of financial security to be collected from mining companies. It uses a combination of tools: water licences, surface leases, and environmental agreements. Surface leases and environmental agreements are contracts between mining companies and the federal government. The environmental agreements cover various aspects, including provisions for adjusting the financial security requirements on a regular basis, if necessary, during the life of the mine. Officials of the Department consider this type of agreement an important supplement to the existing statutory tools.

3.67 The Department reported that full financial security will be achieved for the two new diamond mines. For one of the mines, an estimate by Indian and Northern Affairs Canada in 1996 determined cleanup costs for the life of the mine to be $79.4 million. Financial security obligations were established under a water licence and an environmental agreement with the mining company. In 2001, the Department recalculated the cleanup costs to be $136.4 million. Under the terms of the environmental agreement with the mining company, cleanup costs and financial security requirements are to be reviewed every two years and readjusted accordingly. Future financial security requirements for this mine are to be determined by the Mackenzie Valley Land and Water Board and the Minister of the Department, taking into consideration the advice of a multi-stakeholder group. The multi-stakeholder group will review any proposed new developments, the current liability costs, the current security required, and the new cleanup estimates.

3.68 The second new diamond mine has also incorporated a review process in its environmental agreement. Cleanup costs are to be recalculated on an annual basis and financial security adjusted accordingly. The review process is consistent with the recently released mine site closure policies for the Northwest Territories and Nunavut. The goal of Indian and Northern Affairs Canada is to ensure that the total financial security is equal to the total outstanding cleanup costs at any time during the life of the mine.

Law enforcement: Conflicting demands

3.69 Indian and Northern Affairs Canada follows a co-operative approach to enforcing the law. It works with companies to obtain their compliance with water legislation obligations. Enforcement is viewed as a tool of last resort and is applied only when the co-operative approach fails to achieve compliance. A 1990 audit by the Auditor General of Canada, pertaining to land use planning, water resources management, and development and management of minerals, raised issues on water licence inspections. These concerned the need to enforce water licence terms and conditions more vigorously and to improve the inspection process. At the time, the Department cited insufficient resources as the main cause of these problems.

3.70 We found that the Department's regional offices in the Yukon and Northwest Territories do not prepare annual inspection plans concerning water licences for hard-rock mining. In the Yukon, departmental officials acknowledge that staff are too busy dealing with the day-to-day problems of abandoned mines. In the Northwest Territories, a risk assessment benchmark was developed and three inspections each year are recommended for mining activities; however, compliance rates related to these inspections are not systematically reported.

3.71 The Department has conducted inspections and occasionally identified compliance issues at the four mines we visited. In another case involving a mine not abandoned but currently not in operation, the Water Board had suspected water contamination and notified the Department in November 2001. We found that the Department has not conducted inspections that include water samples since 1999. Departmental officials said that the problems of abandoned mines are creating pressure on available staff, and they are concerned that the Department does not have a sufficient number of water inspectors.

3.72 Indian and Northern Affairs Canada is in the difficult position of having to enforce water licences and, at the same time, promote mining development in the North and carry out its management responsibility with respect to abandoned mines. This situation generates tension within the Department, as it often needs to balance sufficient enforcement of the law against pressure to keep a mine in operation, protect employment, and avoid being seen as the single agent responsible for the ultimate failure of a mining venture. Officials of the Department are aware of these conflicting demands and need to develop mechanisms and tools to avoid a potential conflict of interest situation involving their department.

3.73 In our view, the Department should make public its internal compliance and enforcement policies and report annually on its compliance and enforcement actions. In addition, dissemination of these policies within the Department would help inform staff of their existence. We found that these policies were not well known to the staff.

Application of the "polluter pays" principle

3.74 The federal government has embraced the "polluter pays" principle and refers to it in both the preamble of the *Canadian Environmental Protection Act* and the Minerals and Metals Policy of the Government of Canada. This principle recognizes the responsibility of users and producers for toxic substances, pollutants, and wastes. In other words, those that pollute should pay for the cleanup.

3.75 It is impossible to apply the "polluter pays" principle after a mining company has declared bankruptcy. That is why it is so important for the Department to obtain adequate financial security deposits from mining companies while they are in operation; failing that, Canadian taxpayers will have to foot the bill.

3.76 Although specific mining companies have created the environmental problems at northern abandoned mines, the whole industry bears the impact of the negative social and environmental legacy of these mines. The sites provide negative publicity for the industry, which is a major obstacle to building trust with the local population. It would clearly be in the interest of the industry to contribute to solutions.

3.77 The mining industry recognizes that the issues of abandoned mines need to be resolved. In 2000, an industry-government working group was created, which later convened the Orphaned Abandoned Mines Workshop in Winnipeg in June 2001. At the Mines Ministers Conference in September 2001, Ministers asked that an Orphaned Abandoned Mines Advisory Committee be established. This committee is tasked with exploring solutions to the problems, but action on the ground is slow. Four federal departments, including Indian and Northern Affairs Canada, are part of this committee. We believe that this initiative is an opportunity for the federal government to play a leadership role.

3.78 Some jurisdictions, both in Canada and abroad, use industry-sponsored funds to pay for the cleanup of mine sites, while others use a variety of legal tools to address the issue. The federal government, in consultation with industry and the public, and northerners in particular, needs to consider a variety of options to solve the problems associated with abandoned mines. The Orphaned Abandoned Mines Advisory Committee has formed a task group to examine this issue.

Urgent issues have been identified

3.79 **Defining the issues.** Indian and Northern Affairs Canada has achieved progress in identifying and assessing abandoned mine sites and establishing priorities and costs for them. However, cleanup costs for these sites are only estimates because detailed assessments and engineering designs have not been completed; for some sites, including the four sites we visited, more detail is available. The Department has developed a database of its contaminated sites, including abandoned mines. It is currently working on the database, which will require regular updating to reflect the evolving situation.

3.80 Since the early 1990s, the Department has cleaned up 32 abandoned mine sites, four of which are still being monitored. These four sites are included in the list of 30 priority abandoned mine sites that the Department recently provided to the Treasury Board Secretariat (see the Appendix). Sites on this list have a varying degree of priority.

3.81 The Department estimates the cost for cleaning up all contaminated mine sites to be at least $555 million. However, this figure could change significantly depending on which option the Department decides to implement at priority mines, including the Giant and Faro mines, and on whether new abandoned mines are added. Also, when detailed site assessments are complete, more precise cleanup costs will be established. Another 23 sites not included on the list in the Appendix are suspected of being contaminated and require an assessment; no cleanup costs have been estimated for these sites.

3.82 Officials of the Department indicated that, over the last three years, they have had no choice but to take money away from other departmental activities to pay for the care and maintenance work at northern abandoned mines. In the fall of 2001, the Department laid out options to the federal government to deal with the problems of abandoned mines in the North, as it does not have the necessary funds to implement long-term solutions.

A band-aid approach is ineffective

3.83 The financial burden of dealing with the legacy of northern abandoned mines is huge, and the federal government has not yet come to grips with it. Northern abandoned mines represent a new issue for the government. Consequently, there are no funding strategies in place to support the Department's recent efforts. Without sufficient funding to implement long-term solutions, Indian and Northern Affairs Canada is currently covering only the basic care and maintenance work. This entails merely patching and reacting to problems instead of preventing them. This band-aid approach is not an optimal use of public funds, considering the rapidly growing costs of care and maintenance associated with delaying decisive action. In addition, decisions are required on whether to clean up the accumulated toxic chemicals at these sites or do a major retrofit of containment structures that are deteriorating and near capacity. We hope that the federal government will not wait until a major environmental incident happens before it fixes the problems.

3.84 In our view, there are a number of steps that Indian and Northern Affairs Canada needs to take in order to ensure that abandoned mines in the North do not represent a threat to human health and the environment.

3.85 **Recommendation.** Indian and Northern Affairs Canada should secure adequate resources to implement long-term solutions.

Department's response. Indian and Northern Affairs Canada [illegible] with this recommendation. The Department [illegible] with central [illegible] the resources [illegible] to secure long-term funding [illegible] mines.

3.86 **Recommendation.** Indian and Northern Affairs Canada should conduct the cleanup, containment, and closure of abandoned mines, based on priorities.

Department's response. [illegible]

3.87 **Recommendation.** As soon as possible, Indian and Northern Affairs Canada should put in place its management framework and long-term management plan for contaminated sites and abandoned mines in the North.

Department's response. [illegible]

3.88 As well, Indian and Northern Affairs Canada needs to take measures to ensure that currently operating and future mines in the North do not become an additional financial burden to Canadians.

3.89 **Recommendation.** Indian and Northern Affairs Canada should make public its water compliance and enforcement policies and report annually on its water compliance and enforcement actions.

Department's response. [illegible] recommendation. Water compliance [illegible] more readily available to the public and an annual summary of compliance and enforcement actions will be prepared by the Northwest Territories and Nunavut regional offices.

3.90 **Recommendation.** **Indian and Northern Affairs Canada should complete the Yukon Mine Production and Reclamation Regulations.**

Department's response. Indian and Northern Affairs Canada agrees with this recommendation, however, the Government of Yukon (GY) now has the lead on this issue due to Yukon Devolution, 1 April 2003. The Department will continue to work with GY to ensure the completion of the regulations, but ultimately the timing will be determined by GY, and the regulations will be promulgated under Yukon legislation after devolution.

3.91 **Recommendation.** **Indian and Northern Affairs Canada should update the guidelines on the preparation of proper mine site closure plans.**

Department's response. Indian and Northern Affairs Canada accepts this recommendation. The Department will work with the Northwest Territories and Nunavut regulatory boards to update and improve the guidelines on the preparation of mine closure plans within two years.

3.92 **Recommendation.** **Indian and Northern Affairs Canada should provide clear policy directions to water boards on the setting of appropriate security deposit requirements.**

Department's response. Indian and Northern Affairs Canada accepts this recommendation. The Department has recently provided the Northwest Territories and Nunavut mine site reclamation policies to the boards, [illegible] for security deposit purposes. It will follow up on the consistent application of these policies through submissions to the boards on specific applications and [illegible] licences issued by the Board.

3.93 **Recommendation.** **For all mining projects, Indian and Northern Affairs Canada should continue to**

- **establish cleanup cost estimates,**
- **ensure sufficient financial security deposits are set,**
- **review the cleanup cost estimates regularly, and**
- **apply adjustments to financial security deposit requirements as needed.**

Department's response. Indian and Northern Affairs Canada agrees with this recommendation. The Department will continue to prepare mine closure and reclamation cost estimates for new mines. When appropriate, the Department will update estimates for existing mines. Provisions in the environmental agreements for the two diamond mines, which allow for adjusting the amount of security periodically throughout the life of the mine, will continue to be implemented. Departmental decisions on security requirements, as well as submissions to regulatory licensing boards, will be guided by the principles and objectives of the new Northwest Territories and Nunavut mine site reclamation policies.

Conclusion

3.94 The current situation of abandoned mines in the North demonstrates the importance of integrating the social, economic, and environmental dimensions of development. Indian and Northern Affairs Canada is now tasked with managing serious environmental problems but lacks the necessary long-term, stable funding. The handling of this situation is far from a good example of "environmental excellence," a goal that the federal government set for itself in the 1999 Speech from the Throne.

3.95 The Department now has a good grasp of the size and the complexity of the problems and has set priorities for further site assessments and cleanup work. However, its information base on northern abandoned mines needs regular updating. For example, the current cleanup costs it has provided to the Treasury Board are only estimates, with the level of detail varying from site to site.

3.96 Over recent years, the Department has made progress toward establishing a comprehensive program to deal with contaminated sites in the North, including abandoned mines. Officials of the Department indicated that full implementation of the related draft management framework will depend on available human and financial resources. No annual inspection plans related to water legislation enforcement are prepared; however, the Department has conducted inspections and occasionally identified compliance issues at the four mines we visited.

3.97 At the time of our audit, the Department had just approved the mine site closure policies for the Northwest Territories and Nunavut, although it had been working on these policies since the late 1980s. The Department has made notable improvement over recent years in setting financial security for mining companies. Its objective is to attain full financial security for all mining projects. It reported that full financial security will be achieved for the two new diamond mines, but this will not likely be possible for some older mines still in operation. Therefore, Canadian taxpayers are not fully protected should some of these mines be abandoned.

3.98 Overall, Indian and Northern Affairs Canada is making progress in dealing with the problems of abandoned mines in the North. So far, it has successfully contained the contaminants from these mines and avoided serious impacts to human health and the environment. However, the current band-aid approach, covering care and maintenance only, is not sustainable in the long term. The existing containment structures are deteriorating and reaching their capacity. Decisions on whether to do a major retrofit of these structures and/or clean up the accumulated toxic chemicals will be required. Long-term, stable funding and long-term solutions are needed.

3.99 The Department says its message to the mining industry is now loud and clear: 100 percent financial security is part of the cost of doing business in the North. An inadequate security deposit means no mine. On behalf of all Canadian taxpayers, Indian and Northern Affairs Canada needs to continue its efforts to resolve the current situation and ensure that it does not happen again.

About the Audit

Objective

Our overall audit objective was to determine the progress the federal government has made in the last several years in managing contaminated sites resulting from abandoned mines in northern Canada, including the Yukon, the Northwest Territories, and Nunavut.

Our two sub-objectives were the following:

- Determine the extent to which the federal government has identified abandoned mine sites, completed site assessments, set priorities for funding, selected and implemented site remediation options, and contained the risks posed by these sites.
- Determine whether the federal government has the necessary administrative structures, resources, safeguards, and policies to effectively manage these sites and any future sites that it might inherit.

Scope and approach

We examined the management by Indian and Northern Affairs Canada of abandoned hard-rock mines in northern Canada. We chose four mines to examine in detail: the Giant and Colomac mines in the Northwest Territories, and the Faro and Mount Nansen mines in the Yukon. These represent a significant portion of the potential environmental liabilities for Indian and Northern Affairs Canada.

We visited each of these mine sites and we interviewed departmental officials from the territories and other personnel working on the sites. We took detailed notes and hundreds of photographs during our visits. We reviewed departmental files and collected many key documents. We also interviewed senior personnel in Ottawa representing Indian and Northern Affairs Canada, Natural Resources Canada, Mining Watch Canada, and the Mining Association of Canada. In addition, we had a close look at the approach for setting financial security deposits for mining operations.

Criteria

In conducting this audit, we expected that Indian and Northern Affairs Canada would have done the following:

- developed consistent principles, practices, and standards for conducting environmental liability assessments for its abandoned mines;
- estimated environmental costs, liabilities, and risks associated with these sites and set priorities for further assessment or remediation;
- put in place a system for establishing priorities for all northern contaminated sites, including abandoned mines;
- established a contaminated sites management program north of 60th parallel;
- conducted the necessary inspections to ensure that water licence terms and conditions are adequately enforced;
- put in place policies for reclaiming mine sites;
- ensured that comprehensive plans for the reclamation of disturbed areas are developed, including the provision of satisfactory financial assurance to cover the costs of reclamation and, where necessary, long-term maintenance; and
- identified funding means for reclaiming old mine sites where responsibility cannot be assigned and initiated reclamation at those sites posing the greatest risk.

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For information, please contact Communications at (613) 995-3708 or 1-888-761-5953 (toll-free).

Appendix Action status of abandoned mine sites

According to Indian and Northern Affairs Canada, out of a total of 30 sites, 17 are classified as "action required" and are considered high-priority sites by the Department, 8 are classified as "action likely required," and 5 are classified as "action may be required."

Mine	Location	Action	Status
Arctic Gold and Silver	Yukon	Required	Under remediation (monitoring*)
Clinton Creek Mine site	Yukon	Required	Under risk management
Colomac Mine	Northwest Territories	Required	Under assessment
Contact Lake	Northwest Territories	Required	Under assessment
Discovery	Northwest Territories	Required	Under remediation
Faro	Yukon	Required	Under assessment
Giant Mine	Northwest Territories	Required	Under remediation
Ketza River	Yukon	Required	Under assessment
Mount Nansen	Yukon	Required	Under risk management
North Rankin Inlet	Nunavut	Required	Remediated and under risk management (monitoring*)
Port Radium and Eldorado Mine	Northwest Territories	Required	Under assessment
Rayrock	Northwest Territories	Required	Under remediation (monitoring*)
Terra No. 1 (North Mine)	Northwest Territories	Required	Under assessment
Terra No. 2 (Northrim Mine)	Northwest Territories	Required	Under assessment
Terra No. 3 (Norex Mine)	Northwest Territories	Required	Under assessment
Terra No. 4 (Smallwood Mine)	Northwest Territories	Required	Under assessment
Tundra-Taurcanis	Northwest Territories	Required	Under assessment
Crestaurum	Northwest Territories	Likely required	Under assessment
Hidden Lake Mine	Northwest Territories	Likely required	Under assessment
Hope Bay	Nunavut	Likely required	Under remediation
Indore Gold and Hottah Lake	Northwest Territories	Likely required	Under assessment
North Inca Mine	Northwest Territories	Likely required	Under assessment
Outpost Island	Northwest Territories	Likely required	Under remediation
Venus Tailings and Mill Site	Yukon	Likely required	Remediated and under risk management (monitoring*)
West Bay and Black Ridge Gold Mine	Northwest Territories	Likely required	Under assessment
Liten Mine and Old Parr No. 2	Northwest Territories	May be required	Under assessment
Old Parr No. 1	Northwest Territories	May be required	Under assessment
Pensive Mine	Northwest Territories	May be required	Remediated and under risk management
Ruth Gold Mine	Northwest Territories	May be required	Under assessment
Sun Rose Claim Group	Northwest Territories	May be required	Under assessment

Source: Indian and Northern Affairs Canada

* The Department indicated that these sites were cleaned up and are now being monitored.

Meaning of terms used in this table*

Action required. The available information indicates that action (for example, further site characterization, risk management, or remediation) is required to address existing concerns. Typically, there are several factors of high concern, and measured or observed impacts have been documented.

Action likely required. The available information indicates a high potential for adverse off-site impacts, although the threat to human health and the environment is generally not imminent. There is probably no indication of off-site contamination; however, the potential for this was rated high and therefore some action is likely required.

Action may be required. The available information indicates that the site is currently not a high concern. However, additional investigation may be carried out to confirm the site classification, and some degree of action may be required.

Under assessment. The site is currently undergoing further investigation, and in some cases a remediation plan is being developed.

Under remediation. Remediation is being implemented (site cleanup is being done).

Remediated and under risk management. The remediation has been completed and the site is being risk managed. The remediation may be partial, interim or limited.

Under risk management. No active remediation is currently planned but the site is being risk managed.

*(Adapted from the Federal Contaminated Sites Inventory – Input Guide of Treasury Board of Canada Secretariat)

Report of the
Commissioner of the Environment and Sustainable Development
to the House of Commons—2002

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2002

Report of the
Commissioner of the Environment and Sustainable Development
to the House of Commons

Chapter 4
Invasive Species

Office of the Auditor General of Canada

The 2002 Report of the Commissioner of the Environment and Sustainable Development comprises 6 chapters and The Commissioner's Perspective—2002. The main table of contents is found at the end of this publication.

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Chapter

4

Invasive Species

The audit work reported in this chapter was conducted in accordance with the legislative mandate, policies, and practices of the Office of the Auditor General of Canada. These policies and practices embrace the standards recommended by the Canadian Institute of Chartered Accountants.

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Invasive Species

Main Points

4.1 The federal government has not responded effectively to invasive species that threaten Canada's ecosystems, habitats, and other species. Ten years after the federal commitment to prevent their introduction or to control or eradicate them, the number of invasive species in Canada continues to grow. We found that neither the United Nations Convention on Biological Diversity nor the Canadian Biodiversity Strategy has triggered an identifiable change in the government's approach:

- The federal government has not identified the invasive species that threaten Canada's ecosystems or the pathways by which they arrive.
- The human and financial resources to deal with invasive species are spread across several federal departments and agencies as well as outside organizations, and they are not co-ordinated. There is no consensus on priorities and no clear understanding among federal departments or between the federal government and other jurisdictions of who will do what to respond.
- The federal government has not established the capability to gauge progress on its commitment to deal with invasive species.

4.2 No federal department sees the big picture or has overarching authority to ensure that federal priorities are established and action is taken. There is a bias toward continuing dialogue and consensus building and a lack of practical action to prevent invasive species from harming Canada's ecosystems, habitats, or native species.

4.3 Since invasive species frequently travel along as stowaways with people, goods, and vehicles moving between regions with different ecosystems, increases in trade and the gross national product—clearly a key economic goal—will almost certainly lead to further invasions unless the federal government takes concrete steps to prevent them. If action is not taken, costs will mount; and because invasive species are a leading cause of biodiversity loss, our storehouse of biological resources will continue to be depleted.

4.4 Prevention is recognized by experts and the government as the best response to invasive species. Preventive measures would not be cost-free, or stop all invaders, but they are generally considered more practical than reacting to a succession of crises and repairing damage after invaders have become established. Prevention can also reduce the cost and ecological impacts of chemical controls and biodiversity loss associated with invasive species.

Background and other observations

4.5 Fish, plants, insects, bacteria, viruses, and other organisms found in an area beyond their native range are alien to that area. Not all alien species are harmful. Indeed, many have been introduced intentionally into Canada for the benefits they offered. But some, known as invasive species, can cause disease in native plants and animals or prey upon them; change local habitat, making it inhospitable to native species; or simply reproduce faster than native species and crowd them out by inhabiting their space and eating their food. Experts have concluded that invasive species are second only to habitat destruction as a leading cause of biodiversity loss, including local extinctions of species. Studies to date indicate that they cause billions of dollars of damage to Canada's economy every year.

4.6 In 1992, Canada and 167 other countries signed the United Nations Convention on Biological Diversity and pledged to prevent the introduction of, or control or eradicate, alien species that threaten ecosystems, habitats, or other species. The Biodiversity Convention Office was established at Environment Canada to co-ordinate a Canadian response; it produced the Canadian Biodiversity Strategy in 1995.

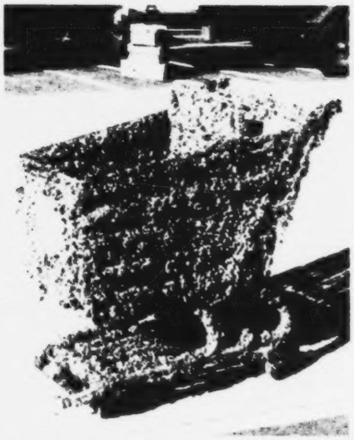
4.7 This audit focussed on the extent to which Environment Canada, on behalf of the federal government, has co-ordinated an effective national response to invasive species that threaten Canada's ecosystems, habitats, or other species. We set out to determine to what extent Canada's 1992 commitment and its 1995 strategy triggered a change in the federal government's approach to managing those species and the impact of any changes on prevailing trends.

Introduction

The issue: Invasive species threaten ecosystems and the economy across Canada

4.8 Fish, plants, insects, bacteria, viruses, and other organisms found in an area beyond their native range are alien to that area. Not all alien species cause harm; in fact, many, including a variety of plant and animal species, have been introduced intentionally to provide economic benefits.

4.9 But some, including some that have been introduced intentionally, can cause disease in native plants and animals or prey upon them; change native habitat, making it inhospitable to native species; or simply reproduce faster than native plants and animals and crowd them out by inhabiting their space and eating their food. These are known as invasive species (see Appendix A for the definition of invasive species proposed by the Conference of the Parties to the United Nations Convention on Biological Diversity).



This shopping cart was left in zebra-mussel infested waters for a few months. The mussels have colonized every available surface on the cart.

Photo: James F. Lubner, University of Wisconsin Sea Grant Institute

4.10 Invasive species can also affect services that the native biology provides, such as soil retention, maintenance of water quality, and consumption of carbon dioxide by growing plants. And unlike most chemical pollutants that degrade over time, invasive species—which some scientists have termed biological pollution—have the potential to multiply, spread, and persist in the environment. Their impacts can ripple through the entire food chain.

A destructive force

4.11 Experts have concluded that invasive species are second only to habitat destruction as a leading cause of biodiversity loss. Their ecological effects are often irreversible and, once established, invasive species are extremely difficult and costly to control or eradicate. An invasive species with no natural checks on its survival or its spread can quickly obliterate native ecology, eliminating natural diversity in favour of a single dominant species. The zebra mussel is perhaps the most infamous invasive species in Canada (see page 4, "The zebra mussel is a well known invader").

4.12 In general, invasive species tolerate a broad range of conditions, reproduce quickly, disperse widely, and resist eradication. They have adverse effects on managed agriculture crops and forests as well as on natural ecosystems across Canada.

Regulated agriculture and forest pests can have serious ecological impacts

4.13 Canada has long-established laws and regulations to prohibit or restrict the entry of foreign animals or plants capable of causing economic damage to agricultural crops (including livestock) or forest trees.

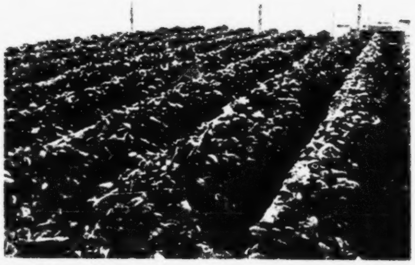
4.14 The Canadian Food Inspection Agency (CFIA) has established procedures, and carries out a variety of activities, to reduce the risk of introduction into Canada of such regulated quarantine pests. The Agency also performs surveillance domestically to identify, control, or eradicate regulated pests that have gained entry to Canada.

4.15 In 1996 we audited the CFIA's programs for protecting agriculture crops and forest trees from regulated pests. We noted that in almost all cases, import permits were required for certain goods to control the movement of foreign animals or plants that could pose a threat to human health or the

The zebra mussel is a well known invader

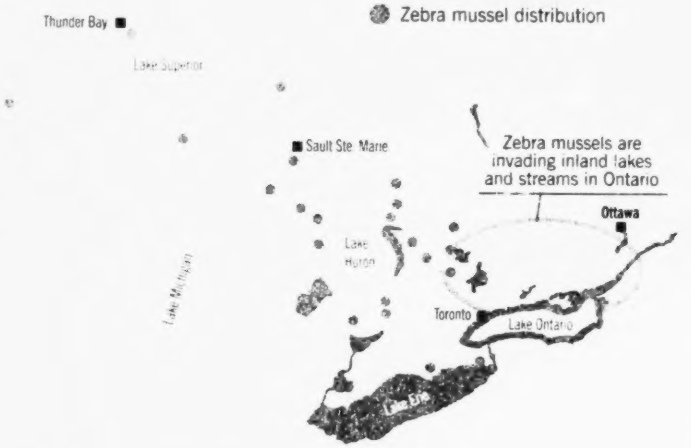
Zebra mussels have the potential to severely impact native mussels by interfering with feeding, growth, respiration, and reproduction.

Photo: U.S. Environmental Protection Agency



De-fouling of water intakes and other equipment infested with zebra mussels, such as these debris racks, cost millions of dollars each year

Photo: Paul M. Wiancko, Ontario Power Generation



Zebra mussel distribution in Ontario.

Source: Ontario Federation of Anglers and Hunters and the Ontario Ministry of Natural Resources

The invasion of Lake St. Clair by the zebra mussel in 1988 annihilated 13 native species in that lake and caused the near extinction of 10 species in Western Lake Erie: one of the greatest reductions of biodiversity ever witnessed in North America.

In a 30-kilometre stretch of the Rideau River, just 25 kilometres south of Parliament Hill, the density of these creatures increased from one animal per square metre to 383,000 per square metre in just three years, wiping out all native mussel species in the process.

Zebra mussels are a major fouler of industrial, municipal, and hydroelectric water intakes and outfalls. They cause a decline in water flow and plant efficiency.

Ontario Power Generation estimates that as a direct consequence of zebra mussels, its operating costs increased by between $500,000 and $1 million per year at its Darlington and Pickering nuclear stations, and for fossil fuel stations, about $150,000 per year at Nanticoke, $75,000 per year at Lambton, and $50,000 per year at Lakeview. It has spent over $20 million installing and maintaining chlorine applicators at its Great Lakes facilities and a few inland facilities to deter zebra mussels, and it has spent $13 million on research to reduce or eliminate chlorine. Ongoing operating costs attributable to zebra mussels are not available for the hydraulic stations on the Great Lakes.

These costs and those confronting publicly owned water treatment facilities and other water-intensive industries could ultimately be passed on to homeowners and consumers.

Zebra mussels are also rapidly colonizing in Ontario's inland lakes. Once established there, they will clog water lines and foul piers, engines, and boats. They are also suspected of imparting offensive tastes and odours to drinking water. As many as 160,000 Ontario cottagers could ultimately pay significant costs to counteract problems caused by zebra mussels.

Finally, through their filtering activity, zebra mussels take in hazardous compounds such as polychlorinated biphenyls (PCBs). Fish and waterfowl that eat the mussels carry those poisons into the food chain. This invader has the potential to spread elsewhere in Canada.

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Photo: U.S. Environmental Protection Agency

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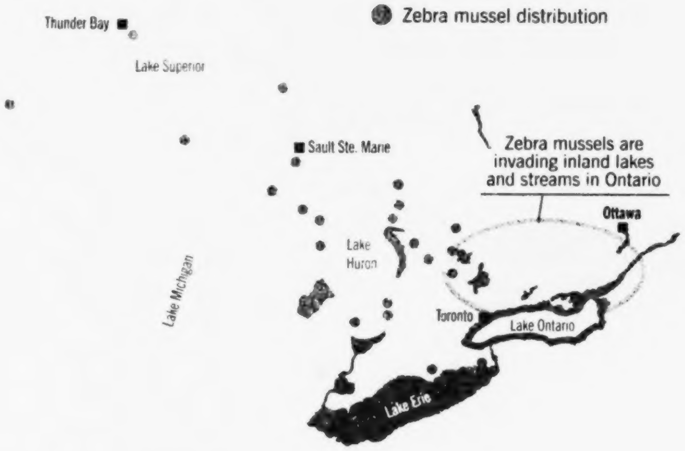

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economy. Usually, further diagnostic testing and health certification were required, and attestation by the government of the country of origin that the requirements set out in the import permit had been met. To provide additional assurances, imported goods were subject to possible inspection and quarantine upon arriving in Canada at land, sea, air, and mail ports of entry.

Did you know?

[illegible]

4.16 We noted that the Canadian Food Inspection Agency had an internationally recognized risk assessment process and had allocated resources to complete scientific risk assessments of more than 350 specific commodities, diseases, and pests.

4.17 However, we also noted that the changing global economy had stepped up the pressures on the federal government to allow additional imports, increasing the risks to Canada. In the 1990s alone, imported cargo unloaded in Canadian ports increased by almost 40 percent. The number of countries exporting products to Canada also increased.

4.18 While inspection rates are higher for regulated commodities and for shipments from certain countries of origin, on average Canada can manage to inspect only 1 percent to 2 percent of incoming shipments. Based on its inspections and on samples submitted to its labs for evaluation, the CFIA reported 1,074 interceptions of alien pests in 2000.

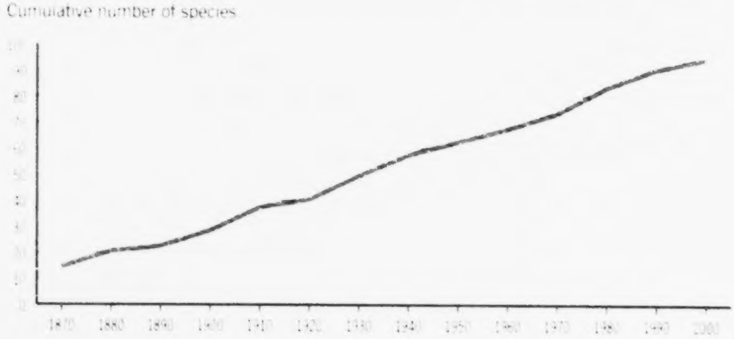
Once a tree in a row is infected, Dutch elm disease can move through connected root systems to kill the entire row.

Photo: Dr. R. Jay Stipes, Virginia Polytechnic Institute and State University

4.19 Despite continuing efforts to protect agriculture crops and forest trees, invasive pests gained access to Canada in the past, sometimes with devastating ecological impacts. Chestnut blight and Dutch elm disease are two examples. Dutch elm disease killed 600,000 elm trees in Quebec, and, in one year alone, killed 80 percent of Toronto's 35,000 elm trees.

4.20 Both invaders were so destructive that the American chestnut and the elm are no longer significant parts of the forest ecosystems of southeastern Canada. Dutch elm disease is still moving west in Canada, placing up to 700,000 trees at risk. Exhibit 4.1 shows the cumulative number of alien agricultural and forest pests known to have been introduced into Canada to date.

Exhibit 4.1 **Alien agricultural and forest pests introduced in Canada (1870–2000)**



Source: Based on data provided by the Canadian Food Inspection Agency

4.21 More recently, the Asian long-horned beetle and the brown spruce longhorn beetle from Europe have been discovered in Canada (see page 7, "Two alien beetles are clear and present dangers"). The former eats hardwood trees and the latter softwood trees; maple and spruce are favoured. Should current surveillance and control efforts fail, these two beetles have the potential to seriously harm forest ecosystems across Canada as well as the lumber, pulp and paper, maple syrup, nursery, commercial fruit, and tourism industries.

Invasive species jeopardize trade relationships

4.22 Invasive species can seriously damage or destroy native commercial species or make them unacceptable for export. Infection or infestation of commercially exported species can cause trading partners to impose restrictions on Canadian goods, with potentially enormous costs to the economy. Canada's heavy reliance on exports of natural resources and agricultural products makes it vulnerable to trade disputes and their consequences (see page 7, "Canada is vulnerable to trade disputes").

4.23 In its 1999 report, *Safeguarding American Plant Resources*, the National Plant Board of the United States expressed concern about Canada as a documented source of invasive species and recommended stronger restrictions on imports from Canada.

Many unregulated invaders also cause harm

4.24 In addition to the invasive species regulated as quarantine pests, there are many others that also threaten Canada's ecosystems, species, and habitats. While the total number of unregulated invaders is not known, examples include purple loosestrife, which threatens natural wetland ecosystems, especially in Quebec, Ontario, and Manitoba; European frog-bit, which clogs lakes and rivers in eastern Canada; and Scotch broom and gorse, which hinder the regeneration of commercial tree species such as the Douglas fir and have encroached on British Columbia's Garry oak ecosystems, where many species of plants and animals are at risk of extinction.

Aquatic invaders are a particular problem

4.25 Unregulated invasive species also cause harm to Canada's aquatic ecosystems and impose tangible costs on many industries that depend on water, including fishing, power generation, and water treatment. Ship ballast water is widely recognized as the predominant source of unintentional introductions of aquatic invasive species (see page 8, "Ballast water is a major pathway for aquatic invaders").

Did you know?

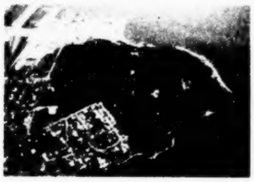
[illegible] 160

4.26 Scientists estimate that there are about 160 aquatic invasive species in the Great Lakes; there are more on Canada's east and west coasts. And the impacts are devastating. Green crab and codium are two examples of invasive species with the potential to cause harm on Canada's coasts (see page 9, "The green crab is eating its way up Canada's coasts").

Two alien beetles are clear and present dangers

In the summer of 2000, Point Pleasant Park in Halifax was infested with brown spruce longhorn beetles from Europe. By March 2002, more than 2,600 spruce trees in the park had been destroyed by authorities to control the bug, and another 1,600 outside the park boundaries. At present, the only control action thought to be effective is to quarantine infested or potentially infested areas and burn the trees.

Should quarantine and control efforts fail, the brown spruce longhorn beetle could spread throughout most of the softwood forests of Canada. Softwood is an extremely important and valuable source of lumber and pulp wood. In 1997 (the most recent year for which reliable data are available), sales of softwood lumber totalled more than $13 billion.



Point Pleasant Park in Halifax with container port nearby

Photo: Canadian Food Inspection Agency

Spruce trees killed by the brown spruce longhorn beetle in Point Pleasant Park, Nova Scotia

Photo: Canadian Food Inspection Agency

The Asian long-horned beetle has been intercepted by authorities in Vancouver and southern Ontario. While authorities believe that efforts to prevent that bug from becoming established in Canada have been successful, the Asian long-horned beetle poses a serious threat to Canada. The larvae of the Asian long-horned beetle tunnel under tree bark and bore into healthy hardwood trees, where they feed on living tissue and eventually kill the tree by disrupting the flow of water and nutrients. In Ontario and Quebec, more than 50 sawmills process hardwood, which is in high demand today for flooring, furniture, and cabinetry. Sales of hardwood totalled more than $480 million in 1997. The maple tree, which scientists have identified as the preferred diet of the Asian long-horned beetle, is a staple of the hardwood lumber industry. Maple syrup and sugar products were valued at more than $130 million annually in 1997.

Asian long-horned beetle larvae are wood borers and a serious threat to hardwoods such as Canadian maples

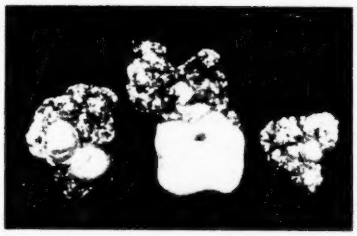
[illegible]

Canada is vulnerable to trade disputes

On 31 October 2000, the U.S. Department of Agriculture imposed a prohibition on all imports of Prince Edward Island potatoes because of potato wart. Potato wart is primarily a soil-borne disease, and spores of the fungus can remain viable in contaminated soil for many years. Diseased potatoes are deformed and unmarketable.

Potato wart was eradicated from the United States in 1992 and according to the U.S. Department of Agriculture, if the disease were to reappear it could be devastating to the U.S. potato industry because of potential losses in production and export markets.

Until October 2000, potato wart in Canada occurred only in Newfoundland. On 24 October 2000, the Canadian Food Inspection Agency confirmed the presence of potato wart in a single field in Prince Edward Island.



The fungus that causes potato wart can lie dormant in soil for up to 40 years. In 2000, potato wart virus cost P.E.I. farmers millions in lost export sales

[illegible]

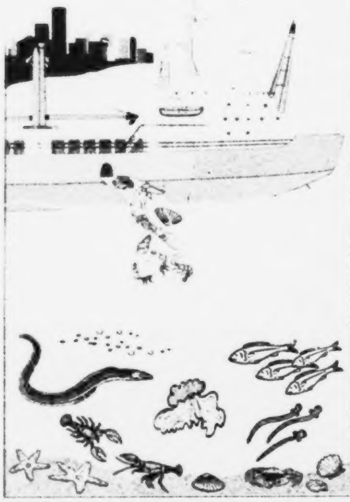
Though the U.S. ban on P.E.I. potatoes was lifted in April 2001, lost sales due to the U.S. ban were estimated at close to $30 million. Work hours of sorters, packers, and truckers were down 64 percent from the year before. The government of Prince Edward Island established a fund of up to $15 million to aid affected farmers.

The federal government responded by announcing up to $12.6 million to help farmers dispose of surplus potatoes that accumulated in the wake of the import restrictions. On top of the disposal funding, the federal government pledged emergency aid of $5.4 million to P.E.I. and an additional $1.5 million to help provide surplus potatoes to food banks across Canada. The Minister of Agriculture also noted that up to an additional $19 million in compensation would be provided through the Canadian Farm Income Program. Thus, total costs stemming from the six-month ban were as much as $83.5 million.

Although there may not be a causal link to events in P.E.I., in the first two months of the prohibition period potato exports to the U.S. fell 6 percent in New Brunswick, 22 percent in Ontario and 15 percent in Quebec.

4.27 While there has never been a comprehensive assessment of the risks or the economic impacts of invasive species in Canada, several recent studies indicate that they impose a heavy hidden cost on society — as high as billions of dollars every year. For example, a recent study we obtained from officials of the Canadian Food Inspection Agency estimates that harmful invasive pests affecting agriculture crops and forest trees are costing today's economy $7.5 billion each year.

4.28 That estimate does not include the costs that stem from the impacts of regulated pests on natural ecosystems or the impacts of unregulated invasive species.



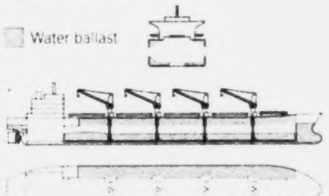
Ballast water is a common source of unintentional introductions of aquatic invasive species.

Ships take on ballast water for stability and safety. When they do, their ballast tanks also take on a wide variety of aquatic species, including micro-organisms, algae, plants, small fish, and invertebrates. Over time, a layer of sediment accumulates in the tanks and it can also contain alien species. A recent study estimated that 3,000 species of aquatic organisms are transported around the world every day in the ballast tanks of ships.

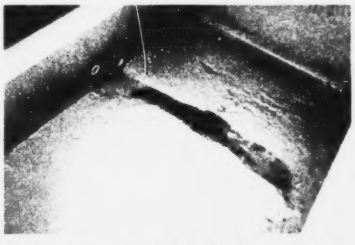
Ballast water can transport a range of micro algae, including toxic species that may form harmful algae blooms or "red tides." The public health impacts of such outbreaks are well documented and include paralytic shellfish poisoning, which can cause severe illness and death in humans.

Scientific research has established that human pathogens are also transported in ship ballast water. A 1998 study that sampled the ballast water of 28 transoceanic vessels en route to the Great Lakes found a number of known human pathogens (including salmonella, Vibrio cholerae, Giardia, and fecal coliforms such as E. coli) in one or more of the samples.

Geared bulk carrier



Typical location of ballast tanks on a commercial ship



Ballast tank sediment contains alien species that may be released into Canadian ports as foreign vessels pick up and off-load cargo.

Ships pump out their ballast tanks in ports when they pick up cargo. In 1999, there were 201 Canadian ports reported to have handled cargo, 57 percent of it at 10 of the ports.

The introduction of invasive species through ballast water is an unintended consequence of a measure that serves a vital purpose to shipping and ship safety. However, while the *Canada Shipping Act* allows the federal government to regulate ballast water to prevent introductions of aquatic invasive species, it has not done so; nor has it assessed the potential risks that ballast water may pose to public health.

4.29 Moreover, current estimates of the economic costs created by invasive species tend to be limited to specific pests, regions, or industries. For example, a recent estimate of damage caused by leafy spurge—an invasive plant that contains poisonous latex, which can cause contact dermatitis in humans and

The green crab is eating its way up Canada's coasts

The green crab, otherwise known as the cockroach of the sea, invaded the coast of North America at Cape Cod more than a century ago. By the 1950s, it had colonized in the waters of New Brunswick. It is likely that it invaded British Columbia in 1998 through warm tidal currents due to El Niño. The green crab not only preys on native crabs, clams, oysters, and mussels and occupies their habitat but also eats the same food as crabs, lobster, and many seabirds. A single green crab can eat 40 clams in a day. It also carries a parasite that is harmful to the eider duck, whose downy feathers have been prized for generations as insulation and bedding material.

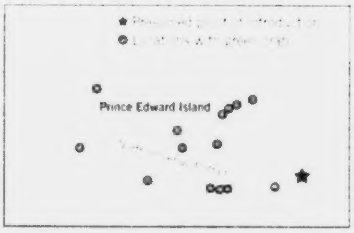
The demise of the softshell clam fishery in northern New England and Nova Scotia in the mid-1950s was associated with green crab. In California the green crab was also blamed for losses of Manila clams as high as 50 percent.

The green crab is aggressively colonizing along Canada's east coast, putting Canada's clam, mussel, and oyster industries at risk. The landed value of Atlantic clams, mussels, and oysters was about $57 million in 2000. The landed value of Atlantic lobster, which scientists believe may also be threatened, was over $500 million in 2000.

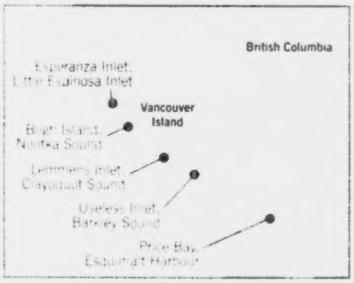
On the west coast, the Strait of Georgia is believed to be suitable habitat for green crab. The landed value of native clams and crab in British Columbia was approximately $25 million in 2000. Dungeness crab is the most important commercial crab species in British Columbia. Roughly 222 fishing vessels and their crews rely on it and thousands of crab fishermen from 33 coastal First Nations communities depend on it. Recreational crabbers are estimated at between 10,000 and 20,000.

This omnivorous, aggressive and opportunistic intruder has left native populations of shellfish decimated in its wake.

[illegible] Fisheries and Oceans Canada



Source: Dr. Andrea Locke, Fisheries and Oceans Canada



Distribution of the European green crab on Canada's east and west coasts

Source: Fisheries and Oceans Canada

[illegible]

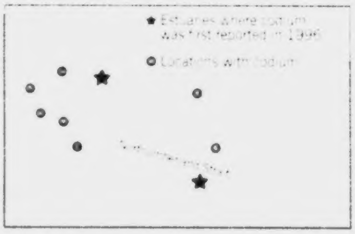
Codium is an invasive form of algae that can cause major devastation to local habitat, affecting native species of kelp, eelgrass, sea urchin, oysters, and lobster.

Scientists believe that codium smothers native mollusks, interferes with the reproductive cycle of the sea urchin, and drives out eelgrass that is habitat for eel. It also crowds out native kelp, which is prime habitat for lobster and other commercially valued species.

In Canada, codium is found along the coast of British Columbia, including the Queen Charlotte Islands and Vancouver Island. It was first reported on the east coast in Nova Scotia, in the late 1980s, and has since been discovered in the coastal waters of Prince Edward Island.

Codium is thought to have significant impacts on the lobster, oyster, kelp, and sea urchin industries and it may also affect eel.

In 2000 the value of the Atlantic sea urchin industry was more than $7 million. Eel catches brought in about $700,000.



Distribution of codium in the southern Gulf of St. Lawrence

Source: Dr. Andrea Locke, Fisheries and Oceans Canada

The socio-economic costs of invasive species are already substantial

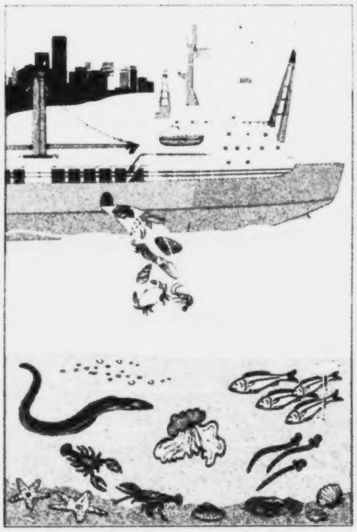
Did you know?

[illegible]

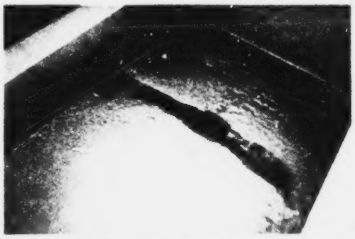
4.27 While there has never been a comprehensive assessment of the risks or the economic impacts of invasive species in Canada, several recent studies indicate that they impose a heavy hidden cost on society — as high as billions of dollars every year. For example, a recent study we obtained from officials of the Canadian Food Inspection Agency estimates that harmful invasive pests affecting agriculture crops and forest trees are costing today's economy $7.5 billion each year.

4.28 That estimate does not include the costs that stem from the impacts of regulated pests on natural ecosystems or the impacts of unregulated invasive species.

Ballast water is a major pathway for aquatic invaders



Ballast water is a common source of unintentional introductions of aquatic invasive species.



Ballast tank sediment contains alien species that may be released into Canadian ports as foreign vessels pick up and off-load cargo.

Photo: Phil Jenkins

Ships take on ballast water for stability and safety. When they do, their ballast tanks also take on a wide variety of aquatic species, including micro-organisms, algae, plants, small fish, and invertebrates. Over time, a layer of sediment accumulates in the tanks and it can also contain alien species. A recent study estimated that 3,000 species of aquatic organisms are transported around the world every day in the ballast tanks of ships.

Ballast water can transport a range of micro-algae, including toxic species that may form harmful algae blooms or "red tides." The public health impacts of such outbreaks are well documented and include paralytic shellfish poisoning, which can cause severe illness and death in humans.

Scientific research has established that human pathogens are also transported in ship ballast water. A 1998 study that sampled the ballast water of 28 transoceanic vessels en route to the Great Lakes found a number of known human pathogens (including salmonella, Vibrio cholerae, Giardia, and fecal coliforms such as E. coli) in one or more of the samples.

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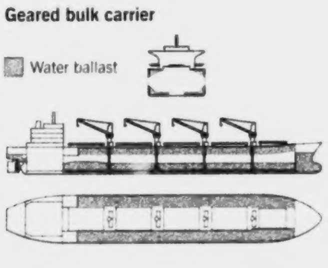
The introduction of invasive species through ballast water is an unintended consequence of a measure that serves a vital purpose to shipping and ship safety. However, while the *Canada Shipping Act* allows the federal government to regulate ballast water to prevent introductions of aquatic invasive species, it has not done so; nor has it assessed the potential risks that ballast water may pose to public health.



Typical location of ballast tanks on a commercial ship

Source: Phil Jenkins

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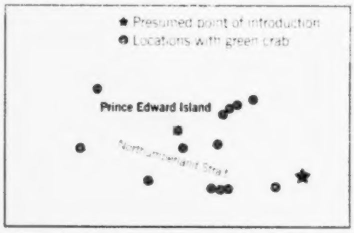
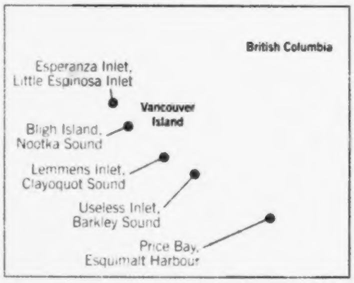
This omnivorous, aggressive and opportunistic intruder has left native populations of shellfish decimated in its wake

Photo: Glen Jamieson, Fisheries and Oceans Canada



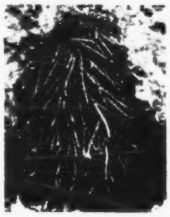
Source: Dr. Andrea Locke, Fisheries and Oceans Canada


British Columbia
Esperanza Inlet, Little Espinosa Inlet
Vancouver Island
Bligh Island, Nootka Sound
Lemmens Inlet, Clayoquot Sound
Useless Inlet, Barkley Sound
Price Bay, Esquimalt Harbour

Distribution of the European green crab on Canada's east and west coasts

Source: Fisheries and Oceans Canada

The undersea plant codium is a threat



Codium is an invasive form of algae that can cause major devastation to local habitat, affecting native species of kelp, eelgrass, sea urchin, oysters, and lobster

Photo: John Pearse, University of California, Santa Cruz

Scientists believe that codium smothers native mollusks, interferes with the reproductive cycle of the sea urchin, and drives out eelgrass that is habitat for eel. It also crowds out native kelp, which is prime habitat for lobster and other commercially valued species.

In Canada, codium is found along the coast of British Columbia, including the Queen Charlotte Islands and Vancouver Island. It was first reported on the east coast in Nova Scotia, in the late 1980s, and has since been discovered in the coastal waters of Prince Edward Island.

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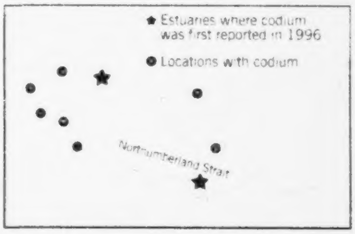


Distribution of codium in the southern Gulf of St. Lawrence

Source: Dr. Andrea Locke, Fisheries and Oceans Canada can kill cattle if eaten in quantity—put the total cost of control in Saskatchewan at $7 million a year.

4.30 A study of the spread of Dutch elm disease in Manitoba estimated the total cost of research, suppression, and tree replacement at $1.5 million a year. That study also concluded that the rate of elm tree loss in Winnipeg had increased from 2.5 percent in 1975 to 5 percent in 1996, despite all mitigation measures. The value of the 700,000 elm trees left in Canada is estimated at more than $2.5 billion. Some of the costs associated with specific aquatic invaders are presented in the cases already cited.

4.31 Most estimates of economic impact are restricted to losses of output and/or costs of control. Most do not reflect the social costs that invasive species can entail, such as lowered property values or falling tourism and employment. Many Canadians own or work in industries whose prosperity depends on a healthy ecology.

4.32 Thus, current estimates of the economic harm caused by invasive species, though large, likely underestimate the total actual costs.

The problem is large and getting worse

4.33 Despite the government's long-standing commitment to deal with the problem of invasive species, their numbers have grown steadily for decades. If trends continue, costs will mount. Moreover, because invasive species are a leading cause of biodiversity loss, our storehouse of biological resources will continue to be depleted.

The federal role

4.34 **A goal to prevent, control, or eradicate invasive species.** Canada has legislation and programs dealing with invasive species that are capable of causing economic damage to agriculture crops or forest trees or that pose a threat to animal or human health. However, those laws and programs were not intended to protect Canada's biodiversity.

Did you know?

[illegible]

4.35 In 1991, the Biodiversity Convention Office was established at Environment Canada to co-ordinate Canada's response to the upcoming United Nations Convention on Biological Diversity. Canada and 167 other countries signed the Convention in 1992. Among other things, the federal government committed to prevent the introduction of or to control or eradicate alien species that threaten ecosystems, habitats, and other species.

4.36 In 1995, the Biodiversity Convention Office produced the Canadian Biodiversity Strategy, which pledged the federal government to take all necessary steps to prevent the introduction of harmful alien organisms and to eliminate those already present or reduce their adverse effects to acceptable levels. The strategy presented actions for accomplishing that objective, set out as follows:

- Develop and implement effective means to identify and monitor alien organisms.

- Develop national and international databases that support the identification and anticipation of the introduction of potentially harmful alien organisms in order to develop control and prevention measures.
- Determine priorities for allocating resources to the control of harmful alien organisms based on their impact on native biodiversity and economic resources, and implementing effective control or, where possible, eradication measures.
- Identify and eliminate common sources of unintentional introductions.
- Ensure that there is adequate legislation and enforcement to control introductions or escapes of harmful alien organisms.
- Improve preventive mechanisms such as screening standards and risk assessment procedures.

4.37 Along with Environment Canada, the lead department for the Canadian Biodiversity Strategy, two other federal departments play key roles in managing the problem of aquatic invaders. Transport Canada is responsible for regulating and controlling the management of ballast water on ships and preventing or reducing the release of foreign aquatic organisms or pathogens by ships entering Canadian waters. Fisheries and Oceans Canada is responsible for conserving and protecting fish, including their habitat and food. More specifically, it has responsibility for performing scientific research and providing scientific advice in connection with ballast water regulations and standards.

Focus of the audit

4.38 We focussed on whether Environment Canada, as the lead federal department, has successfully co-ordinated the implementation of a coherent and comprehensive national program to protect Canada's ecosystems, habitats, and species from existing and potential invaders. We set out to determine whether Canada's 1992 commitment and its 1995 strategy had triggered a change in the federal government's approach to managing invasive species that threaten Canada's ecosystems, habitats, and other species and to determine the impact of any such change on prevailing trends.

4.39 **We looked to existing action plans for benchmarks.** In addition to the United Nations Convention on Biological Diversity and the Canadian Biodiversity Strategy, we examined the United States Management Plan. We also reviewed the Global Strategy on Invasive Alien Species, produced in 2001 by the Global Invasive Species Program. That program was established in collaboration with many international environmental organizations, including the World Conservation Union with initial support from the United Nations Environment Program.

4.40 The plans and strategies we reviewed propose in common a number of criteria for an effective response to invasive alien species, including

- risk assessment, to understand what species and pathways pose the greatest threats and need to be managed under the plan;
- leadership and co-ordination, to understand who will take what actions to respond to key risks; and

- monitoring, to understand whether prevention and control measures are working or whether corrective action is required.

The plans consistently refer to prevention as the principal objective.

4.41 **Thus, we focussed on three key criteria.** In our view, to assure Canadians that it is responding effectively to the problem of invasive species that threaten Canada's environment, the federal government needs to know

- what invaders pose the greatest risks to Canadian ecosystems, habitats, or species and by what major pathways they arrive;
- who is taking what action to respond to major risks; and
- how effective those actions have been at eliminating or reducing adverse effects to acceptable levels so the government can determine whether programs are working or whether corrective measures are required.

We looked at whether Environment Canada has that information or has established the basic tools it needs to acquire it.

4.42 Since ship ballast water is the most important source of unintentional introductions of aquatic invasive species, we examined how the federal government is managing those species and that path of entry.

4.43 We looked at whether Transport Canada has ensured that regulations and enforcement are adequate to control the introduction of alien species into Canadian waters from ship ballast.

4.44 And we looked at how Fisheries and Oceans Canada has responded to the goal and strategies set out in the Canadian Biodiversity Strategy. Specifically, we set out to determine whether the Department has identified the alien aquatic species that pose the greatest risks to Canada, determined priorities for action based on risk, and put in place the monitoring tools it would need to know whether measures taken to prevent the introduction of those species into Canadian waters have been effective. We did not look at the Department's programs dealing with introductions of alien or genetically modified species from domestic fish stocking programs or from aquaculture operations.

4.45 The United States General Accounting Office performed an audit dealing with invasive species in parallel with our own. Part of its report also discusses ballast water and regulation and enforcement by U.S. authorities (the report will be available at GAO-03-01 at www.gao.gov/cgibin/getrpt?gao-03-01).

4.46 In addition, in its 11th Biennial Report on the Great Lakes Water Quality Agreement, the International Joint Commission (IJC) raises concerns about the introduction of aquatic invaders into the Great Lakes from ship ballast water and sediment in ship ballast tanks (see www.ijc.org).

4.47 A description of the audit performed by the U.S. General Accounting Office and the conclusions of the IJC report are provided in appendices B and C.

Observations and Recommendations

A gap between commitment and corrective action

4.48 The federal government has a range of legislation and programs to safeguard agriculture crops (including livestock), forest trees, and human health from specific types of alien pests. But it has mobilized no similar level of effort to fulfil its pledge to protect Canada's ecosystems, habitats, and species from other invaders.

Canada has yet to identify the greatest threats

4.49 Environment Canada has not co-ordinated the federal efforts to identify present and potential invaders that threaten Canadian ecosystems and their key pathways of arrival into Canada. It has not organized a comprehensive assessment of the risks that invasive species pose to our environment and economy. Thus, the federal government has no means to determine the greatest threats to Canada's ecosystems from invasive species; to set national priorities for prevention, control, or eradication; and to allocate its scarce resources to areas of greatest risk.

4.50 And Environment Canada lacks the information it would need on ecological and socio-economic impacts to make a strong business case for obtaining additional funds to deal with invasive species that threaten Canada's ecosystems.

No agreement on what needs to be done and by whom

4.51 The past decade has seen an overwhelming volume of information generated on invasive species. They have been the subject of conventions, resolutions, agreements, strategies, action plans, guidelines, studies, and codes of conduct and practice; Exhibit 4.2 lists some related to aquatic invasive species. Together, exhibits 4.1 and 4.2 show that despite decades of planning and deliberations, the number of invaders in Canada continues to grow.

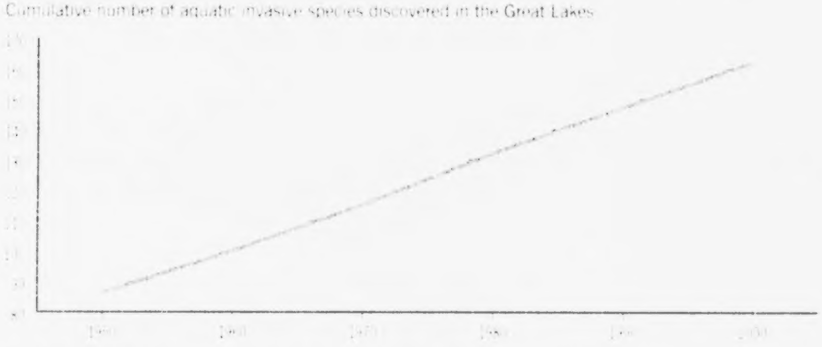
4.52 There is still no clear understanding among federal departments or between the federal government and other jurisdictions about who will do what to respond to invasive species that threaten Canada's ecosystems.

No capability to gauge progress

4.53 There is no formal mechanism that federal departments or others can use to share information with Environment Canada on invasive species or on the effectiveness of measures taken to counteract them.

4.54 Thus, Environment Canada has no basis to know who is taking what measures or to report on how effective any measures have been. The federal government cannot demonstrate that it has prevented the entry of invasive species that threaten Canada's ecosystems or even slowed their rate of entry. Prevailing trends indicate that not enough is being done.

Despite decades of agreements and accords, the number of invaders in the Great Lakes continues to grow



1955	▣	Great Lakes Fishery Commission and its Sea Lamprey Control Program established by the Convention on Great Lakes Fisheries Between Canada and the United States of America
1981	▣	Great Lakes Fishery Commission's Joint Strategic Plan for Management of Great Lakes Fisheries
1987	▣	Great Lakes Water Quality Agreement amended to include research on non-native species and ballast water discharge
	▨	World Conservation Union Position Statement on Translocation of Living Organisms
1989	■	Voluntary Guidelines for the Control of Ballast Water Discharges from Ships Proceeding to the St. Lawrence River and the Great Lakes
1992	▨	United Nations Convention on Biological Diversity
1993	▨	International Maritime Organization Resolution A.774(18) Guidelines for Preventing the Introduction of Unwanted Organisms and Pathogens from Ships' Ballast Water and Sediment Discharges
1994	■	The 1994 version of the Canada–Ontario Agreement Respecting the Great Lakes Basin Ecosystem — references to invasive species
1995	■	Canadian Biodiversity Strategy
	▨	World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures
	▨	United Nations Food and Agricultural Organization Code of Conduct for Responsible Fisheries
1997	▨	International Maritime Organization Resolution A.868(20) Guidelines for the Control and Management of Ships' Ballast Water to Minimize the Transfer of Aquatic Organisms and Pathogens
1998	■	Bill C-15 to amend the *Canada Shipping Act*, to allow for regulations relating to ballast water
1999	▨	Resolution VII.14 on Invasive Species and Wetlands under the United Nations Convention on Wetlands of International Importance
2000	■	The Shipping Federation of Canada's Code of Best Practices for Ballast Water Management
	■	Voluntary Guidelines for the Control of Ballast Water Discharge from Ships in Waters Under Canadian Jurisdiction (update to the 1989 Voluntary Guidelines)
	▣	Great Lakes Commission's Great Lakes Action Plan aimed at the prevention and control of aquatic invasive species
	▨	Global Ballast Water Management Programme
	▨	Interim Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species under the Convention on Biological Diversity
	▨	World Conservation Union Guidelines for the Prevention of Biodiversity Loss Caused by Alien Invasive Species
2001	▨	Global Invasive Species Programme's Global Strategy on Invasive Alien Species
	▣	Great Lakes Commission's Policy Statement on Ballast Water Management
2002	▨	Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species, under the Conservation on Biological Diversity

■ Canadian initiatives ▣ Canada-U.S. initiatives ▨ Multilateral initiatives

4.55 As the department with lead responsibility for co-ordinating the federal government's response to invasive species, Environment Canada needs to be in a position to lead the initiative and report Canada's progress on its commitment to prevent the introduction of or to control or eradicate invasive species.

4.56 **Recommendation.** Environment Canada should put in place a national invasive species action plan to clearly identify the invasive species that pose the greatest risks to Canada's ecosystems, habitats, and species and the main pathways by which they arrive in Canada; to set out priorities for action based on risk assessment; and to lay out results expectations, roles, responsibilities, and resource requirements.

Environment Canada's response. [illegible]

4.57 **Recommendation.** Environment Canada should put in place a monitoring and reporting system to track the effectiveness of measures taken relative to the results expectations set forth in the plan and report progress annually.

Environment Canada's response. [illegible]

Transport Canada is not regulating or monitoring ballast water discharges

4.58 Transport Canada is responsible for regulating ballast water and preventing the introduction of aquatic invasive species by ships. We therefore expected it to ensure that regulation, monitoring, and enforcement of ballast water discharges in Canadian waters are adequate. We also expected that it would maintain records of its monitoring and enforcement activities and report on its performance.

4.59 We found that Transport Canada does not regulate ballast water discharges; nor does it monitor or report on compliance with existing guidelines on ballast water exchange. The United States regulates ballast water discharges in the Great Lakes, and Canada relies exclusively on U.S. inspection and enforcement in that region.

4.60 However, there is no official arrangement between Transport Canada and the U.S. authorities to co-operate on inspection or enforcement or to exchange information. While the U.S. provides compliance data to the International Joint Commission every two years, Transport Canada keeps no records on compliance levels.

4.61 Ironically, the United States ballast water exchange regulation is based on a Canadian voluntary guideline established in 1989 to protect the Great Lakes. The assumption behind the guideline is that salt water from the deep ocean will either flush out or kill potential invaders picked up in foreign ports before they reach the Great Lakes ports. This theory has never been proved. Moreover, neither Canada's voluntary guideline nor the U.S. regulation for the Great Lakes applies to ships that declare no ballast on board (NOBOBs). Between 75 percent and 95 percent of ships entering the Great Lakes are so-called NOBOBs. The ballast tanks of those ships contain sediment that can harbour invasive alien species. Many experts are sceptical about the effectiveness of ballast water exchange as a solution to the problem of invasive species, given that the rate at which new aquatic invasive species are colonizing in the Great Lakes has not declined since 1989.

4.62 Nevertheless, Transport Canada told us that it intends to fulfil the commitment in its sustainable development strategy to regulate ballast water exchange by making its guideline mandatory for the Great Lakes by late 2002.

4.63 Unless the planned regulation goes beyond the existing voluntary guideline to establish requirements for NOBOBs and testing for the presence of living organisms in ballast water and ballast tank sediment against clearly defined criteria, it will likely be insufficient to protect the Great Lakes. And since the government does not intend to apply the new regulations on Canada's coasts, there will continue to be no federal requirement for ballast water management in those regions and gaps will remain in the federal government's ability to control introductions of invasive species from ship ballast.

4.64 **Recommendation.** Transport Canada should formalize arrangements with U.S. authorities for sharing current information on compliance with U.S. ballast water regulations and for co-ordinating efforts to regulate, monitor, and enforce any future Canadian ballast water regulations.

Transport Canada's response. Transport Canada shares information with the United States Coast Guard under the auspices of the Great Lakes Water Quality Agreement. Specifically, since 1993 the U.S. Coast Guard has inspected all ships entering the Great Lakes, enforcing U.S. laws. It provides the

[illegible]

[illegible]

4.65 **Recommendation.** Transport Canada should develop and implement a means to monitor, maintain records, and report on compliance with any future Canadian ballast water regulations.

Transport Canada's response.

[illegible]

[illegible]

[illegible]

Fisheries and Oceans Canada has not responded systematically to aquatic invaders

4.66 Aquatic invasive species threaten many native species of Canadian fish as well as their habitat and their food supply. Because Fisheries and Oceans Canada is responsible for protecting fish and their habitat and food, we expected that it would have identified the aquatic invaders threatening Canada, assessed the relative risks, and on the basis of those risks determined the priorities for prevention, control, and eradication. We expected that it would also have established a tracking system to monitor the effectiveness of any measures taken so it could carry out corrective action as necessary.

4.67 In our 2001 audit report on the Great Lakes and St. Lawrence River basin, we made several observations on the management of aquatic invasive species in the Great Lakes and the role of Fisheries and Oceans Canada. We reported that the Department needed to define its roles and responsibilities for conserving and protecting the fisheries, provide better protection against harmful invasive species, and protect and manage fish habitat more effectively (2001 Report of the Commissioner of the Environment and Sustainable Development, www.oag-bvg.gc.ca).

4.68 In the current audit, we found that Fisheries and Oceans Canada has not established a co-ordinated national response to aquatic invasive species. The Department has not catalogued the aquatic invasive species threatening Canada's freshwater and marine environments or the main pathways by which those species arrive. It has not assessed the relative risks of invasive species as a basis to establish priorities for their prevention, control, and eradication. Nor has it put in place the monitoring tools to measure and report on the effectiveness of any measures taken.

4.69 Fisheries and Oceans Canada needs to establish the capability to demonstrate on a national basis the extent to which it has been successful in protecting Canadian fish, including their habitat and food, from aquatic invasive species.

4.70 **Recommendation.** Fisheries and Oceans Canada should develop and implement a means to identify and assess the risks of aquatic invasive species and use it as tool for setting departmental priorities and objectives for the prevention, control, or eradication of those risks.

Fisheries and Oceans Canada's response. [illegible]

[Fisheries and Oceans provided an expected completion date of Fall 2003.]

4.71 **Recommendation.** Fisheries and Oceans Canada should put in place a monitoring and reporting system to track the effectiveness of measures taken toward its invasive species objectives and should report its progress annually.

Fisheries and Oceans Canada's response. [illegible]

Recent planning activities may not lead to real progress

4.72 Environment Canada began in late 2001 to co-ordinate the development of a draft national plan to address invasive species in Canada. According to Environment Canada, that document is being elaborated for approval by late 2003. However, the 1995 Biodiversity Strategy already contains a clear goal of prevention as well as many of the key actions required to accomplish it.

4.73 To build on the strategy, the new plan will need to clearly identify the government's priorities for prevention and the roles, responsibilities, resources, and results expected of each federal department and other participating organizations.

4.74 However, officials of the Department noted that while Environment Canada may be co-ordinating the federal government's plan for responding to invasive species, it does not have overarching responsibility for ensuring that the plan is implemented. Thus, the new plan's success will require the commitment of each organization to act.

4.75 **Recommendation.** Environment Canada should secure the commitment of each relevant federal department to act on its contribution to implementing the plan.

Environment Canada's response. [illegible]

Real progress on controlling aquatic invaders in particular could be a long way off

4.76 The example of aquatic invaders suggests that getting the necessary commitment may prove difficult. Though responsible for regulating and controlling the management of ballast water on ships and preventing or reducing the release of foreign aquatic organisms or pathogens, Transport Canada told us that it is relying on Fisheries and Oceans Canada to identify criteria that could form the basis of an effective ballast water regulation.

4.77 Fisheries and Oceans Canada told us that it is not responsible for developing science-based criteria that could form the basis of a ballast water regulation, although ballast water is the predominant source of aquatic invaders. Nor will it be taking any regulatory action, since regulating ballast water is now Transport Canada's responsibility. Yet in its 2001 sustainable development strategy, Fisheries and Oceans Canada recognized that the "unintended introduction into Canada's marine and freshwater systems of exotic plant and animal species via vessel ballast water discharges is increasingly a concern, which demands further action by [this department] and its provincial counterparts." It goes on to say "there is a growing need… to work with other departments to better understand the nature of ballast discharge and the consequences of these introductions and to take regulatory action."

4.78 Both Transport Canada and Fisheries and Oceans Canada recognize that ballast water and sediment are major pathways for invading organisms, and both departments have participated in national and international discussions on the ballast water issue for more than a decade. Yet neither has developed or proposed a ballast water quality standard or criteria for testing ballast water for the presence of alien organisms to ensure that the risk of unintentional introductions of alien species is eliminated or reduced to acceptable levels.

4.79 According to officials at Transport Canada, at the current rate of progress it could be another 10 to 15 years before an internationally acceptable standard for ballast water quality is in place, and possibly another 20 years before ships worldwide could be retrofitted with the necessary technology or be replaced. Thus, 30 years or more may go by before unintentional introductions from ballast water discharges are eliminated or reduced to acceptable levels in response to the government's 1995 commitment.

4.80 Transport Canada needs to ensure that the ballast water of ships is managed according to best management practices. Best management practices can include processes and procedures aimed at meeting specified quality criteria or ensuring compliance with regulatory standards; records required to provide objective evidence of activities performed or results achieved; training to ensure competency; and requirements for reporting. The Department also needs to set a timetable for establishing a standard for ballast water discharge quality and regulating ship ballast water so the risk of introductions of alien aquatic species into Canadian waters from that source is eliminated or reduced to an acceptable level.

4.81 **Recommendation.** Transport Canada should define best management practices for ship ballast and establish regulations requiring application of those practices on all ships entering Canadian waters.

Transport Canada's response. [illegible]

[illegible]

[illegible]

4.82 **Recommendation.** Fisheries and Oceans Canada should define criteria for ballast water discharge quality that would eliminate the risk of introductions of aquatic invasive species from ship ballast water, including sediment, or reduce it to acceptable levels; and provide those criteria to Transport Canada in support of that Department's regulatory development, inspection, and enforcement efforts.

Fisheries and Oceans Canada's response. Agreed. As per ministerial agreement, Fisheries and Oceans Canada will continue to work with Transport Canada to develop science-based advice for ballast water discharge quality and evaluate the effectiveness of current ballast water guidelines. Fisheries and Oceans Canada will also continue to support Transport Canada's efforts directed at the international regulation of ballast water exchange and treatment through its participation on the Marine Environmental Protection Committee of the International Maritime Organization.

4.83 **Recommendation.** Transport Canada should establish a timetable for obtaining the scientific advice it needs from Fisheries and Oceans Canada and for establishing a quality standard for ballast water discharges that will eliminate the risk of introductions from ship ballast or reduce it to acceptable levels.

Transport Canada's response. The provision of scientific advice to Transport Canada by Fisheries and Oceans Canada is covered by an existing memorandum of understanding. Fisheries and Oceans Canada will address [illegible] as part of its implementation plan [illegible]

[illegible] and Oceans Canada and Transport Canada are participating in [illegible] related to the establishment of national standards for [illegible] treatment. Both departments also participate on the Marine Environmental Protection Committee of the International Maritime Organization with respect to initiatives on regulation of ballast water [illegible] management and ballast water treatment in the longer term.

4.84 We note that in its most recent biennial report, the International Joint Commission recommended the development and use of standards for treatment of ballast water to eliminate introductions of organisms from ballast water and ballast tank sediment or reduce them to an acceptable level (see Appendix C and www.ijc.org).

Someone needs to take charge

4.85 The invasive species problem is frequently described as both a national and an international problem, characterized by shared jurisdictions and responsibilities and by a broad, complex range of other concerns. Indeed, our discussions with federal officials frequently turned to those complexities and constraints.

4.86 However, within the federal government the authority and the human and financial resources to deal with invasive species are spread across several federal departments and agencies, and are not co-ordinated. Environment Canada does not have the big picture. It has yet to identify the greatest threats to Canadian ecosystems, secure agreement on what will be done by whom, or establish the capability to gauge progress. There is no national action plan to guide progress, and each organization is focussed independently on its own priorities.

4.87 Ten years after the federal government committed to their prevention, control, or eradication, invasive species continue to be introduced into Canada. The scientific literature and the government's own documents point out that the number of alien species entering Canada continues to increase, demonstrating that the level of effort to prevent introductions has not been adequate.

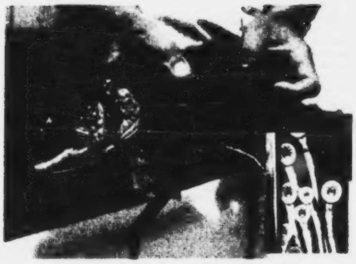
Close the door to invasive species

4.88 Government policy is consistent with expert opinion that the preferred response to invasive species is to prevent them from entering the country and becoming established. The federal government committed to prevention more than 10 years ago.

4.89 While preventive measures would not be cost-free or catch all potential invaders before they became established, prevention is generally considered less costly than controlling pests and repairing damage caused by invaders that have taken hold. Prevention can minimize the cost and ecological impacts of chemical control and biodiversity loss associated with invasive species.

4.90 To prevent the introduction of new invasive species, authorities need to go beyond planning and take action, including the actions set forth in the Canadian Biodiversity Strategy.

A "wait and see" approach is not the answer



Sea lamprey on lake trout. Sea lamprey mouth (inset).

Photo: Great Lakes Fishery Commission

4.91 It is critical to detect potential invaders that enter Canada and to respond rapidly before they become established. The case of the sea lamprey helps to illustrate why.

4.92 In reaction to the sea lamprey—which attacks all species of large Great Lakes fish including lake trout, salmon, rainbow trout, whitefish, walleye, and catfish—Canada and the United States created the Great Lakes Fishery Commission. Sea lamprey research and control efforts have continued for more than 40 years.

4.93 Today, the primary means of controlling the sea lamprey is to use a chemical discovered in 1958 called TFM. In 2001, 28 tonnes of TFM were put into streams flowing into the Great Lakes. Chemical controls including herbicides and insecticides are used across Canada to combat both native and invasive pests. While chemical controls have proved effective in reducing the immediate economic damage that pests can cause, their long-term implications for the environment and human health are uncertain.

Did you know?

Number of tonnes of pesticide used to control sea lamprey in the Great Lakes in 2001: 28

4.94 In our 2001 audit report on the Great Lakes and St. Lawrence River basin, we noted that while the effects of TFM are thought to disappear in three to five days, further research is needed to determine whether current levels can cause endocrine disruption or reproductive impairment in the basin's fish.

4.95 The financial cost of controlling sea lamprey in 2002 (not including the cost of running the Great Lakes Fishery Commission offices) was US$14.4 million; Canada's contribution was US$3.9 million.

4.96 Given the impacts of invaders once they become established—the ecological and economic damage they cause, the financial cost of keeping them in check, and the possible implications of controlling them chemically—it is clear why keeping them out is the best strategy.

Canada needs to practice its environmental principles

4.97 Federal environmental policy has advocated the precautionary principle for years: Where there are threats of serious or irreversible damage, lack of scientific certainty is not to be used as a reason for postponing measures to prevent environmental degradation.

4.98 Scientists believe that the ecological damage caused by invasive species is both serious and irreversible. Yet, after a decade of deliberations and resolutions, the federal government has not taken effective precautions to prevent introductions of species that threaten Canada's environment.

4.99 Canadian environmental policies and legislation, including the *Canadian Environmental Protection Act* (1999), identify pollution prevention as the preferred approach to ensuring a clean and healthy environment. Prevention is the first objective in the government's commitment to deal with the problem of invasive species.

4.100 Yet despite its 1992 and 1995 commitments to do so, the federal government has not established a comprehensive national program to identify and eliminate common sources of unintentional introductions and prevent further invasions.

4.101 The Government of Canada has also adopted the "polluter pays" principle in its environmental policy, meaning that whoever causes environmental degradation should pay for repairing (or preventing) the damage. We know that invasive species are frequently linked to the transportation of goods and people between ecosystems with different biologies. We know the Canadian-controlled ports of entry through which cargo arrives in this country.

4.102 Port and seaway authorities in Canada cover part of the cost of managing and maintaining their facilities by levying tolls on ships. The Canadian Food Inspection Agency also collects fees to cover the costs of protecting Canada's agriculture crops and forest trees from invasive pests that threaten them.

4.103 Yet no similar fees are in place to cover the cost of confronting invasive species that threaten Canada's ecosystems, though officials frequently cite the lack of new money as a major obstacle.

4.104 The precautionary principle, pollution prevention, and the concept of "polluter pays" have been part of Canada's environmental policies for more than a decade. The federal government is not applying them to manage invasive species that threaten our environment.

Conclusion

4.105 The federal government has not taken effective action to prevent the introduction of invasive species that threaten Canada's environment or to control or eradicate them. Despite continuing dialogue and deliberation, neither the United Nations Convention on Biological Diversity nor the Canadian Biodiversity Strategy has triggered an identifiable change in the government's approach.

4.106 In producing the 1995 Canadian Biodiversity Strategy, Environment Canada co-ordinated a written response to the United Nations Convention on behalf of the federal government. The strategy set out many of the steps needed to prevent the introduction of harmful alien organisms and to eliminate or reduce their adverse effects to acceptable levels. Unfortunately, Environment Canada has not succeeded since 1995 in co-ordinating a practical response to the problem.

4.107 It has not obtained the key information that it needs to effectively oversee or co-ordinate the federal government's response. It has not identified the invasive species that threaten Canada's ecosystems, habitats, and species; their most important paths of entry; or the risks they pose to Canada's environment and economy. It has not put together a national action plan or secured agreement among federal departments on who will do what to respond to major risks. Nor has it ensured that it has the tools it needs to determine whether measures that have been taken are working.

4.108 The Department needs to get on with this basic work. Otherwise, increases in trade and in the gross national product, clearly key economic goals of the federal government, will almost certainly lead to further invasions.

4.109 Until Environment Canada takes concrete steps to identify the invasive species that threaten Canada's ecosystems and the magnitude of the risk they pose to our environment and economy, it will find it extremely difficult to make a strong business case for the government to invest scarce resources in combatting the problem. It is clear, though, that not investing will carry a far greater cost.

About the Audit

In 1992, Canada and 167 other countries signed the United Nations Convention on Biological Diversity and pledged to prevent the introduction of or to control or eradicate alien species that threaten ecosystems, habitats, or other species. The Canadian Biodiversity Office was established at Environment Canada to co-ordinate a Canadian response; it produced the Canadian Biodiversity Strategy in 1995.

Objective

The objective of this audit was to determine whether the federal government has mounted an effective response to the invasive species problem since signing the Convention, and particularly since finalizing the Canadian Biodiversity Strategy. We set out to determine to what extent Canada's 1992 commitment and its 1995 strategy triggered a change in the federal government's approach to managing invasive species and the impact of any changes on prevailing trends.

Scope and approach

In our view, to assure Canadians that it is responding effectively to the problem of invasive species that threaten Canada's environment, the federal government must know what invaders pose the greatest risks to Canadian ecosystems, habitats, and species, and the major pathways by which they arrive; who is taking what action to respond to major risks; and how effective those actions have been in eliminating or reducing adverse effects to acceptable levels so that it can determine whether programs are working or whether corrective measures are required.

Because it is the lead department for Canada's biodiversity strategy, we looked to see whether Environment Canada on behalf of the federal government has that information or has put in place the basic tools it needs to acquire it. Since ship ballast water is the most important source of unintentional introductions of aquatic invaders, we also examined how the federal government is managing those species and that particular pathway. We looked at whether Fisheries and Oceans Canada has acquired the basic information it needs to manage aquatic invaders and whether Transport Canada has ensured that there is adequate legislation and enforcement to control their introduction or escape into Canadian waters from ship ballast.

To provide context for the government's commitment and for our observations and findings, the chapter presents case examples illustrating the nature and magnitude of the risks that invasive species pose to Canada.

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Appendix A "Invasive Alien" As Defined by the Conference of the Parties to the United Nations Convention on Biological Diversity

(i) "alien species" refers to a species, subspecies or lower taxon, introduced outside its normal past or present normal distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce; (ii) "invasive alien species" refers to an alien species whose establishment and spread threaten ecosystems, habitats or species with economic or environmental harm (for the purposes of the present guiding principles, the term "invasive alien species" shall be deemed the same as "alien invasive species" in decision V/8 of the Conference of the Parties to the Convention on Biological Diversity.); (iii) "introduction" refers to the movement, by human agency, of a species, subspecies or lower taxon (including any part, gametes, seeds, eggs, propagules that might survive and subsequently reproduce) outside of its natural range (past or present). This movement can be either within a country or between countries; (iv) "intentional introduction" refers to the purposeful movement by humans of a species outside its natural range and dispersal potential (such introductions may be authorized or unauthorized); (v) "unintentional introduction" refers to a species utilizing unwitting humans or human delivery systems as vectors to disperse and become established outside its natural range, and (vi) "establishment" refers to the process of a species in a new habitat successfully reproducing at a level sufficient to ensure continual survival without infusion of new genetic material from outside the system.

Source: Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitat or Species. Report of the Sixth Meeting of the Subsidiary Body on Scientific, Technical and Technological Advice, Conference of the Parties to the Convention on Biological Diversity, April 2002

Appendix B The United States General Accounting Office Says Greater Commitment Needed to Manage Invasive Species Effectively

In 1998, President Clinton signed an executive order intended to improve co-ordination and focus among federal agencies with programs targeted at specific aspects of the invasive species problem. The executive order, among other things, created the interagency National Invasive Species Council and charged it with developing a national management plan for addressing the problems posed by invasive species.

The United States General Accounting Office (GAO) has reported in the past on funding for invasive species activities and the effectiveness of its rapid response capability.* Given the seriousness and complexity of the issues, in late 2001 the GAO initiated a review of the progress made under the executive order. Recognizing the international dimensions of the issue, as part of this work the GAO—in parallel with the Office of the Auditor General—undertook an evaluation of efforts to regulate discharges of ballast water in the Great Lakes, a key source of invasive species in these waters that affects both countries. More specifically, the GAO's objectives were to

(1) assess the usefulness to decision makers of studies that have estimated the economic impact of invasive species in the United States

(2) assess the National Invasive Species Management Plan, including the extent to which the United States government has implemented the plan

(3) provide the views of experts on the adequacy of U.S. and Canadian federal government efforts to prevent the introduction of invasive species into the Great Lakes via the ballast water of ships

(4) describe U.S. and Canadian co-ordination of invasive species management efforts

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* See *Invasive Species: Federal and Selected State Funding to Address Harmful Nonnative Species*. (GAO-RCED-00-219, Aug. 2000) and *Invasive Species: Obstacles Hinder Federal Rapid Response to Growing Threat* (GAO-01-724, July 2001)

Appendix C "Time To Act" Says the International Joint Commission

In its 11th Biennial Report, the International Joint Commission admonished Canada and the United States to act on the problem of invasive species. Below is an excerpt.

Chapter 3—Great Lakes Water Quality Agreement

Conclusion

The introduction and spread of alien invasive species are continuing to impair the biological integrity and threaten the many water-dependent economic sectors of the Great Lakes basin. The costs for treatment and control are massive, rising, and largely borne by local communities, utilities and industry rather than those who create the problem.

Current regulations, guidelines, and practices in place are not sufficient to prevent further alien invasive species introduction and spread. Specifically, current regulations exempting ships declaring no ballast on board (NOBOB) do nothing to minimize the threat they pose. The Great Lake region's sense of the biological and economic urgency of the problem drives the call for more federal leadership and immediate steps to prevent further introduction and spread of alien invasive species.

Immediate federal action to make mandatory ballast water management practices, including the requirement for NOBOB participation in the program, can reduce the biologic and economic threat from the introduction and spread of alien invasive species. The time to act is now.

Recommendations

The Governments need to take more aggressive steps to end the invasion of alien species and we urge the following:

1. Immediately make existing voluntary guidelines for ballast water management practices mandatory and provide for measures of enforcement and compliance for all ships capable of carrying ballast water, including those currently not carrying ballast water.
2. Develop uniform protocols for performance testing of ballast water:
   a) Develop best practices and any improvements for ballast management operations.
   b) By the end of 2003 (date certain) establish enforceable interim biological standards.
   c) Concurrently, establish biological standards for ballast water discharges from all ships and for new technologies for ballast water treatment.
3. Ensure all ships built after a certain date have a treatment technology incorporated in their construction to be allowed entry into the Great Lakes.
4. Design and implement economic incentives to encourage shippers to continuously improve (ISO 14000) Ballast Management Practices.
5. Fund research recommended by expert regional, national and binational panels, task forces and committees, especially focused on:
   a) research (including research for biological standards, criteria and indicators) for ballast water treatment necessary to drive technology, product development, and ship design;
   b) research for developing alternative technologies including biocides to achieve new standards and criteria for the elimination of Alien Invasive Species in ballast water;
   c) research and technology development to reduce entrained and accumulated sediment in ship ballast water and tanks; and,
   d) research to develop analytical tools and procedures to permit the identification of new invasive species and to link these species to their possible points of origin and vessels of introduction.
6. Issue the Commission a reference to coordinate and harmonize binational efforts for action to stop this ongoing threat to the economy and the biological integrity of the Great Lakes.

Report of the
Commissioner of the Environment and Sustainable Development
to the House of Commons—2002

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to the House of Commons

Chapter 5

Sustainable Development Strategies

Office of the Auditor General of Canada

The 2002 Report of the Commissioner of the Environment and Sustainable Development comprises 6 chapters and The Commissioner's Perspective—2002. The main table of contents is found at the end of this publication.

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Chapter

5

Sustainable Development Strategies

The audit work reported in this chapter was conducted in accordance with the legislative mandate, policies, and practices of the Office of the Auditor General of Canada. These policies and practices embrace the standards recommended by the Canadian Institute of Chartered Accountants.

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Sustainable Development Strategies

Main Points

5.1 Sustainable development strategies of federal departments and agencies are not yet fulfilling their potential to influence change toward sustainable development. The strategies are used as a communications tool, a foundation for further change, and a focal point for managing sustainable development. But currently they are not the strategic documents they were meant to be.

5.2 The commitments made by departments and agencies are the nuts and bolts of the strategies. They form the basis on which departments report annually on their progress toward sustainable development. We found that measuring and reporting on progress continues to be a challenge for departments. The sheer volume of commitments in the strategies makes reporting an onerous task. Moreover, in departmental performance reports the quality of reporting on sustainable development varies widely, with weaknesses persisting from year to year.

5.3 The first two rounds of sustainable development strategies laid the foundation for progress. The next step for departments is to focus their strategies more on what they need to do differently to further sustainable development.

5.4 If the strategies are to evolve to their full potential, direction and support from the centre of government are essential. The challenge currently faced by each department is like assembling a large jigsaw puzzle without the picture box. Many of the needed pieces are on the table, but it is not clear what picture is meant to emerge. In setting direction, the federal government needs to describe, in terms all Canadians can understand, what a sustainable Canada would look like 20 years from now.

Background and other observations

5.5 In 1992, Canada and many other countries around the world who attended the Earth Summit in Rio de Janeiro committed to develop national strategies for sustainable development. The strategies were seen as a way to translate the concept of sustainable development into a reality. Canada chose to make selected federal departments and agencies responsible for sustainable development within the sphere of their mandates.

5.6 Twenty-eight departments and agencies tabled their first sustainable development strategies in December 1997. In our 1998 Report, we called the strategies "less a commitment to change in order to move toward sustainable development than a restatement of the status quo." The Commissioner said in that report that the second strategies were expected to focus more on what departments would do differently to promote sustainable development. The second strategies were tabled in February 2001.

Introduction

The global challenge

5.7 Governments all over the world are trying to achieve a better quality of life for their citizens, now and for generations to come. This means ensuring the health of the natural environment — the air, water, land, and ecosystems on which we depend. It also means ensuring access to health, education, and social services as well as extending the benefits of economic prosperity to a broader segment of the population. The challenge is to find a way to do all of this without diminishing the availability of our resources for future generations.

Sustainable development [illegible]

5.8 The World Commission on Environment and Development (the Brundtland Commission) called this effort "[illegible]" in its 1987 report, *Our Common Future*. Since then, governments around the world have adopted this broad concept as a key public policy goal and explored how to translate it into concrete actions.

5.9 The federal government, other national governments, and international organizations recognize that achieving sustainable development requires change and innovation. It is a complex challenge. Kofi Annan, Secretary General of the United Nations, has said, "Our biggest challenge in the new century is to take the idea that seems abstract — sustainable development — and turn it into a daily reality for all the world's people."

A global commitment to produce sustainable development strategies

5.10 In 1992, Canada was one of 178 nations that endorsed Agenda 21 at the Earth Summit in Rio de Janeiro. Agenda 21 is a wide-ranging blueprint for action to make development economically, socially, and environmentally sustainable for the 21st century. Among these actions was a commitment to develop national strategies for sustainable development. The United Nations General Assembly reiterated this commitment in 1997 and set a target date of 2002 to introduce national sustainable development strategies.

The federal government's approach to sustainable development strategies

5.11 For the past decade, Canada's federal government has responded to the sustainable development challenge with different approaches to national sustainable development strategies (Exhibit 5.1).

5.12 In 1995, three specific tools were created to ensure that departments made sustainable development a reality for Canadians. First, the government issued *A Guide to Green Government* to assist departments in developing their strategies. Second, Parliament amended the *Auditor General Act* to create a legal requirement for certain ministers and agency heads to ensure that their departments and agencies prepared sustainable development strategies and updated them at least every three years. Third, with these amendments Parliament also created the position of Commissioner of the Environment and Sustainable Development to monitor and report on the progress made by federal departments and agencies.

Exhibit 5.1 **Significant events in the promotion of sustainable development**

International Event	Canadian Event
1987	
	1990 The Government of Canada's Green Plan was released.
1992	**1992** The Code of Environmental Stewardship was introduced.
	1994 Legislation confirmed the mandate of the National Round Table on the Environment and the Economy, an independent federal agency, to provide objective views and information on the debate over the relationship between the environment and the economy. The government established the Sustainable Development Co-ordinating Committee, a senior forum with the mandate to ensure a coherent approach to the federal government's sustainable development agenda and to co-ordinate sustainable development initiatives.
	1995 Amendments to the *Auditor General Act* established a requirement for federal departments to table sustainable development strategies and created the position of Commissioner of the Environment and Sustainable Development. *A Guide to Green Government* presented a framework for helping federal departments and agencies prepare their sustainable development strategies.
1996	**1996** Interdepartmental Network on Sustainable Development Strategies was created to co-ordinate the efforts of federal departments in producing their strategies.
1997	**1997** First sustainable development strategies were tabled by 28 federal departments and agencies.
	1999 The Commissioner of the Environment and Sustainable Development issued *Moving up the Learning Curve: The Second Generation of Sustainable Development Strategies* to set out expectations for the second round of sustainable development strategies.
2001	**2001** The second round of sustainable development strategies were tabled.
2002	
	2003 The third round of sustainable development strategies are to be tabled.

5.13 Although federal departments have different mandates, responsibilities, and roles to play in achieving sustainable development across the government, each minister or agency head is accountable for making measurable progress within the sphere of his or her mandate. *A Guide to Green Government* established a framework to help departments identify which of their policies and programs are not sustainable, what changes they have to make to achieve sustainable development, and how they will make those changes.

5.14 In December 1997, 28 departments and agencies tabled their first strategies; revised strategies were tabled in February 2001. Over the past four years, we have studied and audited various aspects of the approach to sustainable development. We have examined how the departments and agencies prepared their strategies and whether they followed the procedures outlined in *A Guide to Green Government*. We have assessed whether they installed effective management systems to implement the actions set out in their strategies. And we have reviewed how they have reported to Parliament on their progress toward sustainable development. (For links to the departments' sustainable development strategies and to our audits and studies, visit our Web site at www.oag-bvg.gc.ca.)

5.15 The Commissioner's mandate specifically requires us to report annually on the extent to which departments have implemented the actions contained in their strategies—in effect, to answer the question, "Did they do what they said they would do?" But does the completion of these departmental actions add up to real progress on sustainable development? Do the strategies promote a shift toward sustainable development by driving change and innovation? These are entirely different questions and far more difficult to answer—questions that are the subject of this chapter.

Focus of the audit

5.16 In this audit, we set out to determine whether the process of creating and implementing sustainable development strategies has changed the way federal departments deliver their mandates. We also examined whether departments are reporting to Parliament accurately on their progress toward achieving their sustainable development commitments.

5.17 First, we examined the nature of the strategies themselves. We assessed whether the commitments made by the 28 departments and agencies in the 2001 strategies are clear and measurable. We also examined whether the commitments in the strategies of nine selected departments are meaningful and likely to contribute to change in the way the departments operate.

5.18 Second, we looked inside two key natural resource departments, Fisheries and Oceans Canada and Natural Resources Canada, to see how they are using their strategies and to what effect. We chose these departments because of their heavy involvement in sustainable development issues as well as their links with other audit work described in this report.

5.19 Last, to assess the progress that the 28 departments and agencies have reported against their commitments in the 1997 strategies, we looked at the latest departmental performance reports tabled in Parliament. This was a continuation of audit work we have carried out since 1999. We focussed on the commitments in the 1997 strategies because the majority of departments reported only on those commitments.

5.20 Further details on the audit are in About the Audit at the end of the chapter.

Observations and Recommendations

Two key roles for the strategies

5.21 In our view, the strategies will be a tool for change only if they fulfil their potential as both strategic documents and effective accountability tools. This audit looked at how the strategies fill both roles.

5.22 From the outset, the federal government has expected its sustainable development strategies to produce change. *A Guide to Green Government* presented a framework to assist departments in making the shift to sustainable development. The Guide recognized that this shift would require innovation in both policy and management. Making the shift has been and continues to be a significant challenge for departments and agencies. In 1998, the Commissioner of the Environment and Sustainable Development called the 1997 strategies "less a commitment to change in order to move toward sustainable development than a restatement of the status quo" and said the second strategies would be expected to focus more on what departments would do differently.

5.23 We examined the strategies of selected departments to determine whether they fulfilled their role as strategic documents to influence change. We used *A Guide to Green Government* to develop the following criteria:

- The commitments in the strategy should be meaningful.
- The strategy should establish a coherent and logical structure of commitments, with an appropriate balance of activities, outputs, and outcomes. A clear, sequential chain should show how the commitments will contribute to achieving the department's goals.
- The strategy should promote the choice of the policy instruments most suited to effect the desired change, for example, laws and regulations, fiscal instruments, information and awareness tools, and government-funded programs.

Meaningful commitments are needed

5.24 Under the first criterion, we examined the strategies in selected departments to determine whether their commitments were meaningful. Commitments are the nuts and bolts of the strategies. They are the goals, objectives, targets, and actions that departments have identified in their strategies. We believe that meaningful commitments are essential if the sustainable development strategies are to be useful tools. Meaningful commitments should be

- **related to the issues.** Are the commitments related to the issues the department identified in preparing its sustainable development strategy?
- **supportive of the mandate.** Do the commitments fall within and support the department's mandate?
- **understandable.** Is there an explanation of the context for the commitment with a clear indication of what the department intends to do and how it plans to do it?
- **relevant.** Is the commitment tangible and significant? Would carrying out the commitment help to accomplish the objectives in the strategy?

Exhibit 5.2 gives an example of a commitment that meets these four criteria.

Exhibit 5.2 **An example of a meaningful commitment in a sustainable development strategy**

Fisheries and Oceans Canada set a target to introduce the precautionary approach into fisheries management decision-making. It proposed to do so by testing an objectives-based fisheries management approach in 10 pilot fisheries by the end of 2003. This commitment meets the four criteria: it is related to the issues the Department identified in preparing its sustainable development strategy, is supportive of its mandate, is understandable, and is relevant.

5.25 Generally, we found that commitments met the first two elements: they were related to the identified issues and supportive of the department's mandate. However, we found that departmental strategies include many commitments that are not understandable. They have not provided the necessary context to allow parliamentarians or the public to understand what the department intends to do or how it plans to do it. In reviewing the commitments for relevance, we also found that the strategies include numerous activities of questionable significance. It is not clear from the strategies how achieving those commitments would accomplish the objectives. In our opinion, greater attention to the third and fourth elements would help departments formulate strategies that are better tools for making progress toward sustainable development.

The link between activities and results should be clear

5.26 Our second criterion is based on the hierarchy of commitments set out in *A Guide to Green Government*. That document is intended to help departments prepare their sustainable development strategies. It suggests that departments identify the goals, objectives, and targets they will use to manage their respective sustainable development agendas. It encourages departments to develop an action plan for turning those goals, objectives, and targets into measurable results.

objectives, targets, and actions that departments have identified in their strategies. We believe that meaningful commitments are essential if the sustainable development strategies are to be useful tools. Meaningful commitments should be

- **related to the issues.** Are the commitments related to the issues the department identified in preparing its sustainable development strategy?
- **supportive of the mandate.** Do the commitments fall within and support the department's mandate?
- **understandable.** Is there an explanation of the context for the commitment with a clear indication of what the department intends to do and how it plans to do it?
- **relevant.** Is the commitment tangible and significant? Would carrying out the commitment help to accomplish the objectives in the strategy?

Exhibit 5.2 gives an example of a commitment that meets these four criteria.

Exhibit 5.2 **An example of a meaningful commitment in a sustainable development strategy**

Fisheries and Oceans Canada set a target to introduce the precautionary approach into fisheries management decision-making. It proposed to do so by testing an objectives-based fisheries management approach in 10 pilot fisheries by the end of 2003. This commitment meets the four criteria: it is related to the issues the Department identified in preparing its sustainable development strategy, is supportive of its mandate, is understandable, and is relevant.

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5.27 An action plan can include activities such as holding consultations, gathering and sharing information, carrying out research and studies, and attending meetings. The decisions made and actions taken through these activities produce outputs such as new laws and regulations. These, in turn, contribute to the desired intermediate and long-term outcomes such as changes in consumer behaviour, improved health of Canadians and ecosystems, and less energy consumption. We call this sequence a results chain.

5.28 In our 1998 audit of the first sustainable development strategies, we noted that the commitments focussed on activities and outputs, the front end of the results chain. Our current review of the second strategies found a similar focus on activities and outputs rather than outcomes. We noted that both Natural Resources Canada and Fisheries and Oceans Canada made an effort in their strategies to show how their actions at the operational level are linked to their desired intermediate and long-term outcomes. Exhibit 5.3 illustrates the results chain with examples from both departments. In our opinion, all departments should make similar efforts to make the link between activities and outcomes clear in their action plan to turn strategy goals, objectives, and targets into measurable results.

Mix of policy tools required

5.29 For the third criterion, we analyzed the commitments in a selection of departmental strategies to see what mix of policy tools they used. *A Guide to Green Government* recognized that the choice of policy instrument will vary with the nature of the issue. We found that strategies emphasized the use of information and awareness tools such as studies, analyses, evaluations, policy and scientific research, demonstration projects, inventories, and development of decision-making tools. And in reviewing the strategies of the selected departments with fiscal and regulatory powers, we found that departmental strategies are making little use of two instruments that traditionally have been important and effective levers of government policy—regulation and taxes. While the policy tools chosen may provide a foundation for further actions and an information base for building internal capacity, departments do not explain the reasons for their choice or why that choice is the best way to effect the change their strategies were meant to promote.

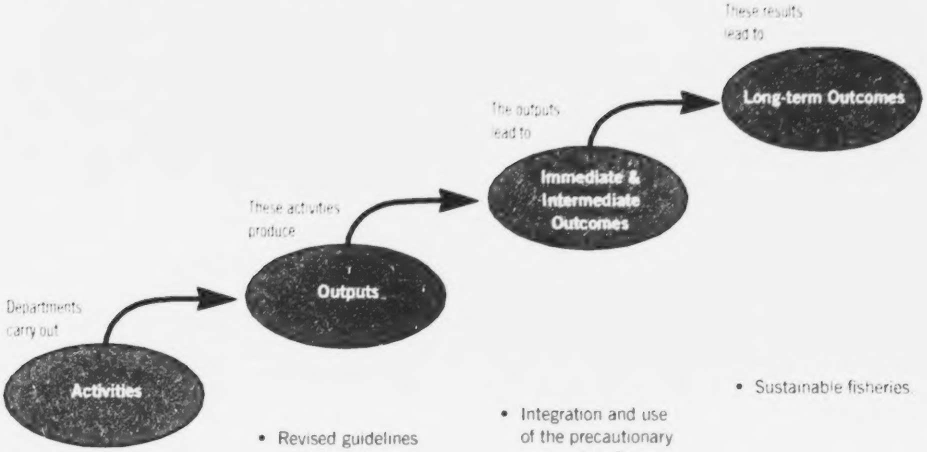
5.30 We found that the strategies generally fell short of fully meeting our criteria for a strategic document. In our opinion, this hinders the process of change that *A Guide to Green Government* was designed to assist.

The strategies in practice

5.31 In addition to our broad assessment of the strategies as strategic documents, we looked at how two departments put their strategies into practice. At Fisheries and Oceans Canada and the Minerals and Metals Sector of Natural Resources Canada, we looked for evidence of changes the departments have made toward sustainable development. Specifically, we examined how they have integrated sustainable development into

Exhibit [illegible] **The results chain: From activities to outcomes**

Examples from Fisheries and Oceans Canada and Natural Resources Canada



Fisheries and Oceans Canada	• Pilot testing Objectives-based Fisheries Management in ten fisheries by the end of 2003.	• Revised guidelines for fisheries management.	• Integration and use of the precautionary approach in fisheries management decisions.	• Sustainable fisheries.
Natural Resources Canada	• Scientific research on options and solutions to environmental challenges for the closure of active and inactive mines.	• Revised Mine Environment Neutral Drainage Program.	• Improved protocols for mine decommissioning and rehabilitation.	• Improved mine decommissioning and rehabilitation.

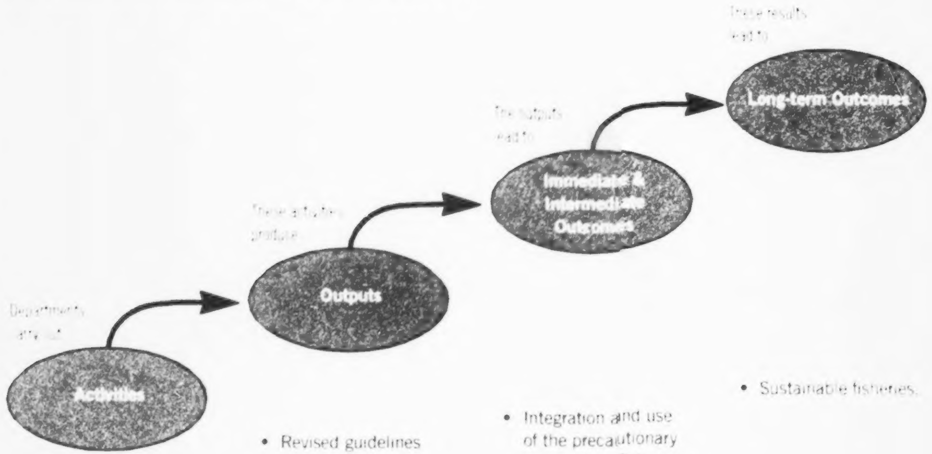
Source: Adapted from Natural Resources Canada, Sustainable Development Strategy – Now and for the future, and from Fisheries and Oceans Canada, Sustainable Development Strategy 2001–2003, Building Awareness and Capacity: An action plan for continued Sustainable Development 2001–2003

departmental business planning and policy development. We also looked at the role their strategies have played in those changes.

5.32 **Sustainable development concepts are being integrated.** We found that both departments have taken sustainable development into consideration over the last 10 years. For example, they have integrated sustainable development concepts into their Estimates documents (Exhibit 5.4), a process that was under way before the requirement for sustainable development strategies was introduced. These documents are the primary tools that departments use to inform Parliament about what they propose to do and how they will budget for it, and then to report on what they did. To be fully integrated into policy development, planning, and decision making, sustainable development must be evident throughout these documents. Otherwise, it risks being sidelined and not treated as the "essential goal of public policy" referred to in *A Guide to Green Government*. In the case of Natural Resources Canada, this integration has permeated to the ministerial level. Support from the most senior levels in a department is a way to ensure that integration of sustainable development is given priority.

The results chain: From activities to outcomes

Examples from Fisheries and Oceans Canada and Natural Resources Canada



	Activities	Outputs	Immediate & Intermediate Outcomes	Long-term Outcomes
Fisheries and Oceans Canada	• Pilot testing Objectives-based Fisheries Management in ten fisheries by the end of 2003.	• Revised guidelines for fisheries management.	• Integration and use of the precautionary approach in fisheries management decisions.	• Sustainable fisheries.
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departmental business planning and policy development. We also looked at the role their strategies have played in those changes.

5.32 **Sustainable development concepts are being integrated.** We found that both departments have taken sustainable development into consideration over the last 12 years. For example, they have integrated sustainable development concepts into their Estimates documents (Exhibit 5.4), a process that was under way before the requirement for sustainable development strategies was introduced. These documents are the primary tools that departments use to inform Parliament about what they propose to do and how they will budget for it, and then to report on what they did. To be fully integrated into policy development, planning, and decision making, sustainable development must be evident throughout these documents. Otherwise, it risks being sidelined and not treated as the "essential goal of public policy" referred to in *A Guide to Green Government*. In the case of Natural Resources Canada, this integration has permeated to the ministerial level. Support from the most senior levels in a department is a way to ensure that integration of sustainable development is given priority.

Exhibit 5.1 **Integrating sustainable development into business planning**

Natural Resources Canada

Natural Resources Canada has gradually integrated sustainable development concepts into its Estimates documents since 1992. In the early 1990s it focussed on integrating environmental and economic concerns. By the middle of the decade, however, sustainable development had become a legislated part of the Department's mandate; its planning and reporting documents made more frequent references to sustainability. By 2001 the Department had aligned its report on plans and priorities, its annual performance report, and its sustainable development strategy. In the 2002–03 *Report on Plans and Priorities*, the Minister of Natural Resources endorsed the Department's four strategic directions for working toward sustainability. These were based on stakeholder consultations that were held in preparing the 2001 strategy and on Government of Canada priorities.

Fisheries and Oceans Canada

Throughout the last decade, Fisheries and Oceans Canada gradually integrated sustainable development concepts into its Estimates documents. The documents in the early 1990s referred to the conservation of fisheries resources and their sustained economic use. The Department's 2002–03 *Report on Plans and Priorities* refers more explicitly to sustainable development concepts. For example, it states that the Department's activities are oriented toward creating fisheries that are ecologically sustainable and economically viable. It is moving toward ecosystem-based management and an integrated approach to managing Canada's oceans for the benefit of the environment, the economy, and communities.

5.33 The two departments have also established new policies, programs, and strategies that reflect the language and principles of sustainable development. For example, Natural Resources Canada has stated that the Minerals and Metals Policy of the Government of Canada (1996) "represents the first attempt by the government to incorporate the concept of sustainable development into a comprehensive policy document in the natural resources sector." Focus 2006, released in 2001, presents a strategic vision from 2001 to 2006 for the Department's Minerals and Metals Sector. The document envisions Canada as "a role model for the world in applying sustainable development through good stewardship of its minerals and metals resources to enhance the quality of life of Canadians and their communities."

5.34 Fisheries and Oceans Canada has established new policies, programs, plans, legislation, and strategies aimed at improving the conservation and sustainable use of resources. Examples include the creation of the Fisheries Resource Conservation Council on the East Coast and the Pacific Fisheries Resource Conservation Council; passage of the *Oceans Act*; the piloting of integrated fisheries management planning; the initiation of an Atlantic Fisheries Policy Review, and the ratification of the International Agreement on Straddling Stocks and Highly Migratory Stocks.

5.35 Integrating sustainable development concepts into their planning documents and policy development is an important step for these departments. However, only time will tell to what extent that integration is influencing the way both departments carry out their mandates.

Exhibit 5.4 **Integrating sustainable development into business planning**

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5.35 Integrating sustainable development concepts into their planning documents and policy development is an important step for these departments. However, only time will tell to what extent that integration is influencing the way both departments carry out their mandates.

5.36 **Influences of change.** Given the integration of sustainable development concepts by these departments, a key question for us was what role the strategies had played in bringing about those changes. Our review and our discussions with managers found that both departments had been influenced by a wide variety of factors other than the strategies. Those factors included growing public awareness of environmental issues, pressure from industry groups and environmental non-government organizations, reports of the Auditor General and the Commissioner, and the work of standing committees of the Senate and the House of Commons. The Minerals and Metals Sector was affected in particular by the 1992–1994 Whitehorse Mining Initiative, a multi-stakeholder process that examined sustainability in the mining industry. At Fisheries and Oceans Canada, the decline of fish stocks on the east and west coasts of Canada has had a major impact on the Department's approach to its policies and programs.

5.37 The Department's approach to aquaculture provides an illustration of the many economic, social, and environmental factors that can influence the way Fisheries and Oceans Canada delivers its programs. The Department must weigh the demands of a growing industry sector, the potential social and economic benefits that aquaculture may bring to local communities, and concerns about the environmental impacts of aquaculture on the ecosystem. It must work within existing legislative requirements and a policy context that includes the Federal Aquaculture Development Strategy and the Department's own Aquaculture Action Plan. The Department's sustainable development strategy includes only two of the several aquaculture-related activities it is undertaking. This demonstrates the communications role played by the strategy for this issue.

5.38 Fisheries and Oceans Canada has developed a departmental strategic plan that plays a stronger role and is more integrated into the business planning process than is the Department's sustainable development strategy. Given the predominance of its strategic plan and the existence of a number of strategies and plans on specific issues, the Department faces the dilemma of ensuring that its sustainable development strategy can usefully contribute to change without duplicating other processes.

5.39 **The strategies communicate existing activities.** One of the aspects we examined was the extent to which strategies reflect new ways of doing business. Natural Resources Canada and Fisheries and Oceans Canada set the goals and objectives in their sustainable development strategies centrally and across departmental sectors, using broad sustainability themes. Then, to meet those high-level goals, they fit into their strategies activities they already have under way that support sustainable development.

5.40 We found that this process produces a strategy that is largely a catalogue of projects highlighting current work, that is, work that departments had already planned to carry out. We call these worthwhile activities "good business as usual." At Fisheries and Oceans Canada, examples include commitments to create a network of multidisciplinary science research teams by the end of 2001 and to enhance stakeholder involvement in fish habitat management. An example in the Minerals and Metals Sector of Natural Resources Canada is the Mine Environment Neutral Drainage (MEND) initiative, which laid the foundation for ongoing work (see the case study below).

5.41 These projects are aligned with the goals and objectives that Natural Resources Canada and Fisheries and Oceans Canada are trying to achieve toward more sustainable use of natural resources. They are thus an important part of the departments' efforts to progress toward sustainable development. However, if the strategies are to fulfil their intent as strategic documents we believe they need to include more activities that push departments further in the area of sustainable development. An example of such a commitment is the undertaking by Natural Resources Canada to research and develop technologies by 2003 for recycling and resource recovery in the minerals and metals sector. This is an activity that the Department has identified as a priority but that has not been part of its operations.

5.42 In our opinion, departmental strategies composed largely of current activities make it difficult to discern their strategic focus. We believe that departments should be more strategic in their selection of the activities they include in their sustainable development strategies.

The Mine Environment Neutral Drainage Initiative

In 1989 the Canadian mining industry, non-government organizations, and the federal and provincial governments created the Mine Environment Neutral Drainage (MEND) program. MEND was established to develop scientifically based technologies for predicting, monitoring, treating, preventing, and controlling acidic drainage from mining activities. The program became the focal point of efforts to control acidic drainage; it developed a set of technologies available to all stakeholders. A 1996 evaluation of MEND by outside consultants found that the program had reduced the liability of five mine sites by $340 million.

At the end of the original MEND program in 1997, the partners agreed to a second program; MEND 2000 began in 1998. Initiating MEND 2000 had been a target in Natural Resources Canada's first sustainable development strategy. The Department's *Performance Report* for the year ending 31 March 1999 said the target had been met. One of the major achievements of MEND 2000 was the production of a comprehensive manual on acidic drainage.

At the end of the program's three-year term in December 2000, the MEND 2000 steering committee recommended that the program be renewed. The new program would carry out further research aimed at improving environmental performance and reducing the financial liability associated with acidic drainage and metal leaching. The Department's second strategy set 2002 as a target for implementing a new MEND program, and the Department is on track to meet this commitment.

The MEND initiative predates the sustainable development process. Nonetheless, it supports what Natural Resources Canada is trying to achieve on sustainable development.

Strengthening the strategic role

5.43 **Working with others on cross-cutting issues.** Sustainable natural resources and protection of ecosystem health were among the sustainable development objectives identified in *A Guide to Green Government*. The Guide also promoted working together as a means of better planning and decision-making for sustainable development. We believe departments have missed an opportunity to use the strategies as a way to address significant issues that cut across departmental lines. Our audit of the federal response to invasive species, discussed in Chapter 4 of this Report, illustrates this strategic shortcoming. As shown in Exhibit 5.5, only one of several departments with key roles to play includes in its sustainable development strategy a commitment on this emerging threat to natural resources and ecosystem health.

Exhibit 5.5 **A missed opportunity**

Chapter 4, Invasive Species

Invasive species frequently travel as stowaways with goods, vehicles, and people moving between regions with different ecosystems. They are causing extensive ecological and economic damage in Canada. Despite the federal government's long-standing commitment to deal with the problem of invasive species, their number has grown steadily for decades. Increases in trade will almost certainly lead to further invasions unless the government acts decisively to prevent them. Of the many departments with a key role to play in tackling the problem, only Transport Canada has a commitment to action in its sustainable development strategy—a commitment it has yet to complete.

5.44 In summary, our work in this and other audits found that currently the departmental strategies are serving the following purposes:

- **A foundation for sustainable development.** The strategies have helped departments take the essential early steps toward sustainable development, such as raising awareness within the departments, consulting with stakeholders, and establishing basic management systems.
- **A communications tool.** As an overview of current sustainable development programs in the departments, the strategies play a valuable role in informing both internal and external stakeholders of the sustainable activities that departments have underway.
- **A management focus.** The strategies help departments focus on sustainable development issues and identify areas that require more effort.

We believe that these roles are all useful and indeed, necessary, to assist departments in raising awareness and incorporating sustainable development concepts into the way they carry out their mandates.

5.45 However, in our opinion, departments need to do more to ensure that the strategies fulfil their strategic role. To show a "commitment to change," science research teams by the end of 2001 and to enhance stakeholder involvement in fish habitat management. An example in the Minerals and Metals Sector of Natural Resources Canada is the Mine Environment Neutral Drainage (MEND) initiative, which laid the foundation for ongoing work (see the case study below).

5.41 These projects are aligned with the goals and objectives that Natural Resources Canada and Fisheries and Oceans Canada are trying to achieve toward more sustainable use of natural resources. They are thus an important part of the departments' efforts to progress toward sustainable development. However, if the strategies are to fulfil their intent as strategic documents we believe they need to include more activities that push departments further in the area of sustainable development. An example of such a commitment is the undertaking by Natural Resources Canada to research and develop technologies by 2003 for recycling and resource recovery in the minerals and metals sector. This is an activity that the Department has identified as a priority but that has not been part of its operations.

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5.44 In summary, our work in this and other audits found that currently the departmental strategies are serving the following purposes:

- **A foundation for sustainable development.** The strategies have helped departments take the essential early steps toward sustainable development, such as raising awareness within the departments, consulting with stakeholders, and establishing basic management systems.
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- **A management focus.** The strategies help departments focus on sustainable development issues and identify areas that require more effort.

We believe that these roles are all useful and indeed, necessary, to assist departments in raising awareness and incorporating sustainable development concepts into the way they carry out their mandates.

5.45 However, in our opinion, departments need to do more to ensure that the strategies fulfil their strategic role. To show a "commitment to change," an expectation we first cited in 1998, the strategies also need to focus more on what departments need to do differently to achieve sustainable development.

The accountability role

5.46 Our audit also looked at the second role the strategies play — as accountability tools. Effective accountability requires, among other things, good commitments and robust reporting to Parliament on those commitments.

Good commitments are necessary

5.47 **Good reporting requires good commitments.** We analyzed all commitments in the second round of strategies, tabled in February 2001, to assess whether they provide a basis for good reporting. We looked for the following attributes:

- the commitment is clearly stated as a result or outcome;
- there is a clear deliverable;
- there are concrete performance expectations (performance can be measured); and
- the commitment is time-bound.

5.48 We found that only 13 percent of the commitments in the second round of strategies had all of these characteristics. In individual strategies the proportion varied widely — from 0 to 56 percent. The low percentage of good commitments in the strategies makes measuring progress difficult, if not impossible. This means that departments, parliamentarians, and the public have few benchmarks for judging how successfully departments are implementing their strategies or determining when corrective action may be needed. In our previous audit work on the reporting of progress, we have noted the lack of benchmarks as a cause of difficulties in tracking progress toward sustainable development.

5.49 Fisheries and Oceans Canada's strategy had a commitment to increase research by the end of 2001 to support economically and environmentally sustainable development of the aquaculture industry. This is an example of a commitment that makes reporting on progress difficult. Research is a component of the Department's Aquaculture Action Plan and the Program for Sustainable Aquaculture. However, the commitment makes no reference to how research is to be distributed between determining environmental impacts and meeting industry needs. Nor does the commitment indicate the size of the increase in research (for example, is it a 5 percent increase, a 50 percent increase, or something in between?). This type of information is important if progress under the sustainable development strategy is to be measured. Furthermore, simply stating that the commitment has been met does not say much about progress; rather, determining the impact this research will have on the sustainability of aquaculture will require ongoing monitoring and evaluation. Exhibit 5.6 gives examples of commitments with the attributes that provide a basis for good reporting.

Exhibit 5.6 **Good reporting requires good commitments**

Examples of measurable targets

Correctional Service Canada: Use of water reduced 20 percent by March 2004 (from 600 L/day/occupant to 480 L/day/occupant).

Western Economic Diversification: 100 percent of new programs assessed under the Strategic Environmental Assessment process by March 31, 2003.

Did you know?

[illegible] 100

[illegible] 90

[illegible] 97

[illegible] 72

[illegible] 83

5.50 We found that all strategies contained commitments toward "greening" departmental operations. We noted that this type of commitment was more likely than others to be clear and measurable. In developing their objectives, targets, and actions for greening their operations, many departments used the guidance provided in *Sustainable Development in Government Operations: A Coordinated Approach*, a document developed under the co-leadership of Public Works and Government Services Canada, Natural Resources Canada and Environment Canada. Exhibit 5.7 provides an example of a clear, understandable commitment to green operations.

Exhibit 5.7 **A clear, understandable target related to greening operations**

Fisheries and Oceans Canada: Implementation of Environmental Management Plans (EMPs) at all current client-managed harbours (559) by end of 2002.

Reporting to Parliament on the commitments

5.51 **Measuring progress.** After the tabling of the first round of sustainable development strategies in 1997, we developed a database containing all the commitments made by each department in its strategy. We use this tool each year to capture the information on progress that departments and agencies include in their performance reports against their sustainable development goals, objectives, targets, and actions. This allows us to calculate the average percentage of commitments that departments report having met, and we provide an annual consolidated report on progress to Parliament. It also allows us to readily track reported progress from year to year.

5.52 We reviewed the summary information that departments included in their performance reports and the supplementary information they referenced. We found that departments reported having met about 42 percent of the commitments in their first strategies. This is an improvement over the 11 percent reported in 1998, 20 percent in 1999, and 35 percent in 2000. However, it should be noted that we took at face value the information departments included in their performance reports and the supplementary information they referenced. Any weaknesses or omissions in their reporting on progress affect the reliability of those figures.

5.53 **Accuracy of information.** We did not audit the reliability of the information included in all of the departmental performance reports.

Exhibit 5.6 **Good reporting requires good commitments**

Examples of measurable targets

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5.53 **Accuracy of information.** We did not audit the reliability of the information included in all of the departmental performance reports.

However, we did audit a selection of sustainable development strategy commitments to verify that data in the departmental performance reports were consistent with data in those departments' information systems. We selected some commitments from programs of the two departments we examined in depth (Fisheries and Oceans Canada and Natural Resources Canada); we selected others related to topics discussed in other chapters of this Report, such as invasive species and federal contaminated sites. To assess the accuracy of the reported information, we reviewed the supporting information referred to in the performance reports. Where necessary, we supplemented our review with further inquiry, analysis, and discussion.

5.54 In the selection of commitments that we audited, we found that the evidence supported the reported performance—that is, the performance reports contained information on progress for the selected commitments that was consistent with the information in the departments' systems.

5.55 **Measuring and reporting on progress continues to be a challenge.** Although the reported information on the commitments we examined was accurate, our review of reporting on commitments by all departments found problems with the way the information was reported. We found cases that called into question the usefulness of the information in the departmental performance reports. These cases show the difficulty of using the information in the performance reports to compile a picture of overall progress.

Did you know

5.56 We have noted weaknesses in reporting that persist from year to year. Of particular concern is the repetition of deficiencies we identified in our 2001 Report (Chapter 3). Once again, we found reporting that was confusing, Web links that did not work, and vague reporting that focussed on activities rather than results. Exhibit 5.8 gives some examples of these weaknesses. The weaknesses lead us to question whether the figure of 42 percent of commitments met represents a credible assessment of progress.

5.57 Another reporting challenge for departments is the sheer volume of their commitments. The second strategies contain a total of 2,672 commitments, compared with 2,983 in the first round of strategies—a reduction of only 10 percent. This large number of commitments can make it difficult to discern the strategic focus of the strategies. The uneven quality of the commitments in the departments' strategies is another reason for the ongoing difficulties in measuring and reporting progress.

Strengthening the accountability role

5.58 **A measure for improved reporting.** In an effort to improve reporting on sustainable development strategies, our Office established an inventory of the commitments each department made in the second round of strategies. Each department verified the accuracy of its inventory. We intended the inventories to clarify for departments what the Commissioner would be monitoring so they could report on their progress accordingly. (More information on the inventory can be found under the sustainable development tab on the Commissioner's page of our Web site at www.oag-bvg.gc.ca.)

Weaknesses in reporting

Confusing reporting

National Defence committed to a 5 percent per year reduction in the number of specified high-risk hazardous materials it uses. Although the Department's statistics showed reductions in the first two years of reporting, data in the 2001 *Performance Report* do not agree with the totals reported previously. The Department's report provides no explanation for this inconsistency. This contravenes one of the Treasury Board Secretariat's principles of effective performance reporting, which instructs departments that use comparative information to explain any differences.

In another department we found that the departmental performance report contradicted an earlier report. Justice Canada made a commitment to "reduce paper product use by 25 percent from 1997 to the end of 1999." In its 2001 *Performance Report*, it said it had achieved progress on its commitment by stabilizing paper product use. However, an appendix to the Department's second sustainable development strategy, describing achievements under the first strategy, reported the opposite. It noted that despite various efforts to reduce paper consumption, the amount of paper used had increased significantly.

In another case, Natural Resources Canada made a commitment, "From 1998-2000, possible participation of Canadian experts to the series of fora entitled World Forum on Forests (part of World Exposition 2000, Hanover, Germany)." In its status report for 2000-01, it indicated "status" with a tick (✓) and added, "Unfortunately, the fora were not held."

The Canadian International Development Agency (CIDA) provides an additional example. The Agency has been in transition to make its second sustainable development strategy its business plan. While CIDA has indicated that this year's departmental performance report signals a change in reporting under this new approach, we believe that the Agency needs to devote greater efforts to ensure that its reporting on progress toward achieving its commitments in the second strategy is clear and understandable. In the future, we plan to look more closely at the extent to which the Agency's business-plan approach facilitates consistent, comprehensive reporting on its sustainable development commitments.

Vague reporting that focusses on activities

In one case, Canadian Heritage made a commitment to "sensitize all departmental employees to the concept, values and concrete applications of sustainable development by December 2000." Its performance report described progress to date, such as setting up information during Environment Week 2000, distributing an information sheet entitled *The Green Office*, and exploring with other interested departments the social and cultural dimensions of sustainable development. Although the Department stated its performance indicators, it did not discuss when or how it would measure the level of employee awareness and changes in understanding within the federal government. Until the Department measures the effects of its actions, it will not know (nor will parliamentarians and Canadians) how effective its efforts have been at sensitizing employees or whether it needs to take corrective action.

Invalid references

Of the departments that provided references to more detailed information, five (Correctional Service Canada, Environment Canada, Department of Finance Canada, Health Canada, and Department of Justice Canada) provided Web addresses that were invalid at the time of our audit. Last year we reported that two departments (again, one was Department of Justice Canada) provided invalid Web links. Invalid Web addresses limit access to information by members of Parliament or the public who want to review the detailed progress reports such links provide. It is notable that the guidance provided by the Treasury Board Secretariat advised departments that reports would be monitored to ensure that Internet links to supporting information were present and working.

5.59 The guidelines for preparing the 2001–02 performance reports, issued by the Treasury Board Secretariat in the spring of 2002, suggested that departments use a more detailed format to report comprehensively and explicitly on progress. These guidelines provide a link to the Commissioner's Web site and suggest that departments may find it more efficient to use the inventory developed by the Commissioner as the basis of their detailed progress report. In our opinion, a complete inventory is a useful tool for departments to provide more detailed supplementary information as part of their performance reports. We believe that reporting against all of the commitments in their strategies is essential for a complete picture of progress.

5.60 **Recommendation.** Beginning with the 2002–03 departmental performance reports, departments and agencies that prepare sustainable development strategies should use the Treasury Board Secretariat's reporting guidelines to report comprehensively and explicitly on progress they have made toward sustainable development. They should use the complete inventory of the commitments developed by the Commissioner as the basis for the detailed progress report suggested in the Secretariat's guidelines.

Government's response. [illegible]

[illegible]

Barriers to progress

5.61 Although our audit work focussed on departments and their strategies, we identified two areas that act as barriers to the departments' preparation of strategies that are the strategic documents they were intended to be.

5.62 **Absence of a long-term strategic perspective.** Our audit found that most of the actions in the strategies are short-term; few extend beyond 2004. This is partly a consequence of the *Auditor General Act* itself. Since ministers and departments are required to update their strategies every three years, the strategies have tended to focus on a limited three-year horizon. Yet thinking about and planning for the next generation of Canadians is the very essence of sustainable development.

5.63 Sustainable development strategies of other countries have set an example for establishing a long-term strategic perspective. In the Netherlands, the ambitious goal of the first National Environmental Policy

Plan in 1989 was to achieve sustainability by 2010. Plans in each subsequent four-year cycle have set interim targets to be met within that cycle. Sweden has attempted something similar with its recently adopted National Environmental Objectives, whose primary goal is to hand over to the next generation a society in which the major environmental problems have been solved. Interim targets identify the direction and timeframe for ongoing, concrete environmental measures to achieve the objectives. Both countries have set long-term objectives for environmental quality and have established the short-term targets needed to achieve them.

5.64 **Absence of a practical and understandable image of sustainable development.** We found that the commitments in the strategies use terms such as "integrated decision-making," "sustainable use of resources," and "new forms of governance" that do not give departments or Canadians an understanding of where sustainable development is headed. In our opinion, federal departments need to turn the concept of sustainable development into practical and understandable terms that provide a clear image of the long-term outcomes the strategies are meant to achieve.

5.65 The challenge faced by each department is like helping to assemble a large jigsaw puzzle without the picture box. Many of the needed pieces are on the table (departments are undertaking short-term, worthwhile activities), but it is not clear what picture is meant to emerge. Without the guiding image, it is not apparent whether the pieces are all part of the same design, whether they will fit together properly, and whether each piece is going in the right place. The government has yet to provide a clear picture of what a sustainable Canada would look like 20 years from now.

Need for central direction

5.66 The original guidance to departments, A *Guide to Green Government*, was endorsed in 1995 by the Prime Minister and Cabinet. While it set a framework for action, it was intentionally broad and was meant to be interpreted and adapted by departments. There is a growing view among departmental officials and other stakeholders that a clear Government-of-Canada perspective is needed to facilitate greater co-ordination and coherence in the federal voice on sustainable development.

5.67 The legislation that obliges ministers to produce sustainable development strategies also gives the government the right to make regulations prescribing the form and content of the strategies; however, so far no regulation has been made. The federal government has chosen another option. It has begun to develop an overarching federal strategy as part of an ongoing process of translating its commitment to sustainable development into reality. We were told that Environment Canada, through an interdepartmental network, is leading discussions on this new document.

5.68 Previous audits by our Office have highlighted our belief that central agencies, such as the Privy Council Office, need to play a stronger role in providing direction to departments and ensuring that the federal agenda for sustainable development is given high priority. The Privy Council Office has acknowledged in the past that its role is "to ensure that departments are aware of the priority that the government has placed on sustainable development and that they [departments] understand the role they are expected to play." We believe that the Privy Council Office needs to provide the guidance and central direction departments need in preparing the third generation of sustainable development strategies.

5.69 **Recommendation.** In preparation for the third round of strategies, the Privy Council Office should lead ministers, departmental senior managers, and central agencies in making a renewed commitment to sustainable development in government policies and programs. This should include developing a clear image of what a sustainable Canada would look like in 20 years and providing enhanced guidance and direction to departments.

Government's response.

[illegible]

Conclusion

5.70 In our audit we set out to determine whether the process of creating and implementing sustainable development strategies has changed the way federal departments deliver their mandates. We looked at whether the strategies fulfilled two roles we believe essential for change — whether the strategies are strategic documents and whether they are effective accountability tools.

5.71 We found that the strategies fall short of fully meeting our criteria for a strategic document. In our opinion, this hinders the process of change that *A Guide to Green Government* was designed to assist.

5.72 The departments we examined in detail, Natural Resources Canada and Fisheries and Oceans Canada, have made changes over the past decade to integrate sustainable development concepts into their planning documents and policy development. We found that a variety of external and internal factors, other than the strategies, had played a big part in influencing the departments to make these changes. Only time will tell to what extent their integration of sustainable development concepts is influencing the way both departments carry out their mandates.

5.73 While the strategies of the two departments do describe some new ways of doing business, we found that they are largely a catalogue of projects highlighting current work. The strategies do serve useful roles as a communications tool, a foundation for further change, and a focal point for managing sustainable development. In our opinion, however, this is not enough to enable them to fulfil their strategic potential. To show a "commitment to change," an expectation we first cited in 1998, the strategies also need to focus more on what the departments are doing differently to achieve sustainable development.

5.74 In examining the role that strategies play as accountability tools, we found that departments continue to have difficulty reporting on their progress toward sustainable development. The sheer volume of commitments in the strategies makes reporting an onerous task. The quality of reporting in the annual departmental performance reports varies widely, with weaknesses that persist from year to year. While departments report having achieved 42 percent of the commitments in their first strategies, the quality of reporting in the performance reports leads us to question the reliability of that figure.

5.75 The guidelines for preparing the 2001–02 *Performance Report*, issued by the Treasury Board Secretariat in the spring of 2002, suggest that departments may find it more efficient to use the inventory of commitments developed by the Commissioner as the basis of their detailed progress reports. We believe that reporting against all of the commitments in the strategies is essential for a complete picture of progress.

5.76 In our opinion, the 1997 and 2001 sustainable development strategies have laid a foundation for the future. We have identified barriers that impede further progress on sustainable development: the absence of a long-term strategic perspective and the absence of a clear image of a sustainable Canada 20 years in the future. There is a growing view among departmental officials and other stakeholders that a clear Government-of-Canada perspective is needed to facilitate greater co-ordination and coherence in the federal voice on sustainable development. We believe that the Privy Council Office should provide the guidance and central direction departments need to prepare strategies that better fulfil their potential to influence change toward sustainable development.

About the Audit

Objectives

The first objective of our audit was to determine whether the process of creating and implementing sustainable development strategies has changed the way federal departments carry out their mandates. The second objective was to determine whether departments are reporting to Parliament accurately on their progress toward achieving their sustainable development commitments.

Scope and approach

In our audit work under our first objective, we looked in depth at the strategies of selected departments to identify meaningful commitments that would spur the departments to change the way they operate. We expected to find commitments that are understandable, relevant, supportive of the department's mandate, and related to the issues that departments identified in preparing their strategies. We examined a selection of commitments to determine if they showed an appropriate balance of activities, outputs, and outcomes. We also examined the strategies to determine if they established a coherent and logical structure of commitments.

In two departments—Fisheries and Oceans Canada and Natural Resources Canada—we assessed what has changed with respect to sustainable development since they developed their first sustainable development strategies and whether those changes can be attributed to the sustainable development strategy process.

For our second objective, we examined the performance reports of the 28 departments and agencies that produce sustainable development strategies. We compared the information in the performance reports with the goals, objectives, targets, and actions in the departments' sustainable development strategies, using our database of all commitments in each department's strategy.

We analyzed all of the commitments from the second strategies to identify those that were clear and measurable and could serve as benchmarks for departments, parliamentarians, and the public to judge whether the strategies are being implemented successfully and when corrective action may be needed.

For the first time, we audited a selection of commitments to verify that data in the departmental performance reports were consistent with data in the departments' information systems. We selected commitments from the strategies of the departments discussed in both this chapter and other chapters of this report. To assess the accuracy of the information, we identified and reviewed the supporting information referred to in the performance reports. Where necessary, we supplemented this review with further enquiry, analysis, and discussion.

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2002

Report of the

Commissioner of the Environment and Sustainable Development

to the House of Commons

Chapter 6

Exercising Your Right to Know:
The Environmental Petitions Process

Office of the Auditor General of Canada

The 2002 Report of the Commissioner of the Environment and Sustainable Development comprises 6 chapters and The Commissioner's Perspective — 2002. The main table of contents is found at the end of this publication.

This report is available on our Web site at www.oag-bvg.gc.ca

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Chapter

6

Exercising Your Right to Know: The Environmental Petitions Process

This chapter on petitions serves to fulfil the requirements set out pursuant to section 23 of the Auditor General Act. It describes the issues being addressed in environmental petitions received during the past year and highlights how federal ministers are responding to petitioners' questions and concerns. It also describes the steps being taken by the Commissioner to maximize the effectiveness of the process.

If you have comments or questions about the environmental petitions process or want to submit a petition, please contact us at the following:

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Petitions
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Exercising Your Right to Know: The Environmental Petitions Process

Main Points

6.1 The Commissioner of the Environment and Sustainable Development is convinced that the environmental petitions process offers great promise. In response to recent petitions, government organizations have changed or clarified their policies, undertaken site inspections, and even launched a new project. As the guardian of the process, the Commissioner is committed to ensuring that the opportunities afforded by the process are realized.

6.2 While a number of petitions received to date are from established national or international environmental groups, most continue to come from individual Canadians, local volunteer lobby groups, regional and provincial organizations, and parliamentarians.

6.3 Protecting fish and fish habitat remains a significant concern for Canadians. Fisheries and Oceans Canada continues to be one of the most petitioned departments.

6.4 Of the 13 responses required from Fisheries and Oceans Canada during the past year, only two responses were within the time limit stipulated under the *Auditor General Act*.

6.5 Environmental petitions and the responses provided by federal ministers are now part of the public record. For full details on environmental petitions and their responses, you can access our petitions catalogue on our Web site at www.oag-bvg.gc.ca/environment.

Background and other observations

6.6 Canadians have a right to know whether the government is taking environmental and sustainable development issues seriously. The environmental petitions process, under the *Auditor General Act*, provides parliamentarians and Canadians with a unique vehicle for pursuing environmental concerns that involve the federal government. The issue may be something that affects all Canadians, such as biotechnology, or it could be something happening in a local community. With a petition, which can be a simple letter, it is possible to raise questions and concerns and to get answers and action from federal departments and agencies.

6.7 Through the petitions process, federal departments and agencies may be asked to explain federal policy, investigate an environmental infraction, or examine their enforcement of federal environmental legislation.

6.8 The Commissioner of the Environment and Sustainable Development, Johanne Gélinas, is committed to making the petitions process work for

Canadians. Charged with overseeing petitions on behalf of the Auditor General, the Commissioner is responsible for petitions from the beginning of the process right through to the end. She receives petitions and ensures that they are forwarded to the appropriate federal ministers. She monitors the responses and is required to report annually on petitions to the House of Commons.

6.9 It is evident that many departments and agencies are putting a lot of time and effort into their responses. Responses that do not adequately address the petitioners' requests may be sent back to federal ministers. In the coming year, the Commissioner intends to scrutinize responses more closely and selectively follow up on petition commitments made by departments and agencies.

6.10 The process is gaining momentum. In the past year (16 July 2001 to 15 July 2002), we received 28 petitions, considerably more than in previous years and close to one half of the total of all petitions received to date (62 in total).

Johanne Gélinas
Commissioner of the Environment
and Sustainable Development

Introduction

6.11 For over a decade, Myles Kehoe, a resident of Cape Breton, has been gathering evidence about the dumping of mustard gas and other chemical warfare agents in the Atlantic Ocean by the Canadian military following World War II. While he has often wondered whether these dump sites have been affecting the health of fish and other marine species, he became alarmed when he heard that proposed oil and gas exploration might be taking place off the coast of Nova Scotia and Newfoundland in areas where these sites are located. This prospect prompted him to submit an environmental petition to the Commissioner. In his petition, Kehoe requested that the location of these dump sites be confirmed and a moratorium be placed on future exploration immediately. The Commissioner asked National Defence and five other federal departments to respond to his petition requests.

6.12 In some other petitions received by the Commissioner, petitioners have posed questions about the Canadian International Development Agency's involvement in a hydro dam proposed for Belize, Central America and asked for an accounting of federal funds spent to engage First Nations in activities to address and adapt to climate change.

6.13 The environmental petitions process provides parliamentarians and Canadians with a unique vehicle for pursuing their environmental concerns. A petition could address something happening in a local community or on the other side of the world. It could also cover an issue that affects all Canadians, such as biotechnology. The key factor, and a prerequisite for using the process, is whether the federal government is involved.

6.14 The Commissioner of the Environment and Sustainable Development is the guardian of the process and is committed to making it work for parliamentarians and all Canadians.

The Environmental Petitions Process Under the *Auditor General Act*

A positive force for Canadians

Petitions offer unique opportunities

6.15 Environmental petitions empower Canadians. They allow them to pose questions; they open doors and inspire dialogue between concerned citizens and the federal government on environmental issues.

[illegible]

6.16 The Commissioner of the Environment and Sustainable Development is convinced that the environmental petitions process offers great promise. By launching an environmental petition, Canadians bring facts and issues to the attention of departments and agencies, parliamentarians, and the Commissioner.

6.17 The process also provides a platform for departments and agencies to explain their environmental and sustainable development policies to

Canadians. Depending on the issue, a petition may provide the impetus for several government organizations to work together on a specific concern. It may also lead to a clarification of or change in policy. Recent petitions have produced these and other results (paragraph 6.43).

6.18 There are various ways to get information from the federal government, but the petitions process is unique. While documents can be obtained through the federal *Access to Information Act*, the petitions process is a way to get specific answers to questions. In addition, federal ministers must reply to petitions and do so within 120 days. In this way, an environmental petition offers advantages beyond a regular letter or e-mail to a federal minister or departmental official (see "The basics of the environmental petitions process" on page 5).

Petitions provide important information to our Office

6.19 Petitions, and the responses they generate, provide a valuable resource when staff of the Auditor General and the Commissioner of the Environment and Sustainable Development plan and conduct audits. Petitions can have an impact on how auditors look at an issue. Many recent and upcoming audits are addressing issues that have been raised in petitions.

6.20 Over the past two years, we have been striving to make the petitions process a more effective instrument for addressing Canadians' concerns about the environment. Following are some of the ways in which the Commissioner is working to make the most of this process.

Monitoring ministers' responses is a priority

6.21 Environmental petitions provide a way for Canadians to bring new information to light, make recommendations, or probe for an explanation of federal policy. Individuals and organizations that use this process have a right to expect federal departments and ministers to treat their petitions seriously. The Commissioner has similar expectations.

6.22 In her role as Commissioner, Ms. Gélinas is responsible for petitions from the beginning of the process right through to the end. She receives petitions and ensures that they are forwarded to the appropriate federal ministers. They must respond to petitions on behalf of departments and agencies within 120 days. The Commissioner monitors the progress of replies to ensure that ministers are complying with this obligation.

6.23 The Commissioner also examines replies carefully to determine whether ministers have provided considered responses that address petitioners' concerns and requests. Replies that do not adequately address the petitioners' requests may be sent back to federal ministers. In the coming year, the Commissioner intends to scrutinize replies more closely and selectively follow up on commitments made by departments and agencies in their departmental responses.

The basics of the environmental petitions process

In December 1995 the *Auditor General Act* was changed. The changes established the position of the Commissioner of the Environment and Sustainable Development and created the environmental petitions process. If you are concerned about an environmental matter involving the federal government, the petitions process may work for you.

Who can use the process?

Whether you are an individual, an organization, a municipality, or a corporation residing in Canada, the environmental petitions process is for you to use.

What does a petition look like?

Your petition can be a simple letter that outlines your concerns and requests. Or you may wish to submit a more substantial document that provides detailed background information on the issue that you are raising in your petition.

Who signs a petition?

Multiple signatures are not necessary. You alone can sign the petition, or others can sign as well. The choice is yours.

Can a petition deal with any issue?

There are two major requirements:

- Your petition must address an environmental issue. Your concern can relate to the broader concept of sustainable development.
- At least one of the 25 federal departments and agencies that are involved in the petitions process must be responsible for addressing the issue or concern. Appendix A provides a list of these departments and agencies.

Where is a petition sent?

You send your petition directly to the Auditor General of Canada. The Commissioner is responsible for handling petitions on the Auditor General's behalf.

What happens after a petition is submitted?

The Commissioner does not respond directly to environmental petitions. Ministers and their departments do. Under the process, the Commissioner's staff review your petition. If they determine that it meets the requirements set out in the *Auditor General Act*, the Commissioner forwards your petition to the federal departments and agencies that are responsible for the issue being addressed in your petition. The appropriate federal ministers receive and respond to petitions on behalf of the departments and agencies. A minister receiving a petition is required to reply within 120 days.

What kinds of questions can be asked in a petition?

As a petitioner, you can approach environmental issues and concerns from different angles. For example, if you think a federal law is being broken or is not being enforced, you can ask federal departments to investigate. Here are some other possibilities:

- If you are not clear about a federal policy pertaining to an environmental issue, you can ask for clarification.
- You can ask government departments or agencies to review existing environmental laws, regulations, or policies; you can recommend improvements and get a response to your suggestions.
- If you want to know how a particular department is involved in an issue, you can ask for details.
- When a federal minister has made a commitment on an environmental issue, you can ask that minister what steps have been taken to fulfil the commitment.
- Perhaps you want to know what a particular department is doing to "green" its operations. If so, you can ask that department to provide you with an update.

Any questions?

Our telephone number, e-mail address, and mailing address are provided at the beginning of this chapter. Feel free to contact us. You can also consult our Web site (www.oag-bvg.gc.ca/environment).

Making petitions and responses accessible on the Web

6.24 Making petitions and ministers' responses a part of the public record is a key priority of the Commissioner. We encourage you to consult our new on-line petitions catalogue. This is an electronic listing that forms part of the "environmental petitions corner" on the Office's Web site (www.oag-bvg.gc.ca/environment). The catalogue contains, verbatim, the petitions and their responses, subject to consent of the petitioners. They are a valuable source of information, and by making them public we hope to encourage government accountability. A full list of petitions received since the start of the process (December 1995) is also provided in Appendix B of this chapter.

6.25 A paper version of the full catalogue is being published to accompany copies of the Report tabled in the House of Commons. Given that the petitions and replies are available on our Web site, paper copies will be available only on request. The Commissioner is adopting this approach for reasons of environmental conservation and economy.

6.26 Last year we reported that the number of environmental petitions received since the start of the process had been limited. We are pleased to report that the number of petitions increased dramatically during the past year and the issues being addressed continue to cover a broad range of environmental concerns. Following is a review of petitions received from 16 July 2001 to 15 July 2002 (petitions No. 33A to No. 54).

The petitions process is gaining momentum

6.27 In the past year, the Commissioner received 28 petitions. This represents close to one half of the total of all petitions received to date (62 in total). More federal departments are now being asked to respond to petitions, further evidence that the petitions process is gaining momentum and a higher profile among Canadians. In the past year, departments and agencies such as the Canadian International Development Agency (CIDA), the Department of Finance Canada, National Defence, the Canada Customs and Revenue Agency, the Department of Justice Canada, and Western Economic Diversification Canada were called upon to respond to petitions for the first time.

6.28 The issues being addressed in petitions are diverse. They range from local issues such as a golf course development that threatens a neighbourhood park or destruction of fish habitat from timber harvesting, to a global problem such as climate change.

6.29 The wide range of issues in petitions demonstrates the significant role played by the federal government in safeguarding the environment and promoting sustainable development across the country. The scope of the issues also illustrates the extent to which the federal government exerts an influence on the environment and sustainable development at all levels—local, regional, national, and international.

Protecting fish and fish habitat remains a significant concern for Canadians

Questionable forestry practices around small feeder streams in British Columbia are the subject matter of petition No. 49.

Source: Ian McAllister, Raincoast

6.30 Protecting fish and fish habitat was the most dominant concern of petitioners during the first five and a half years of the petitions process. This year, the trend continues. Close to one half of the petitions touch on this concern or related issues. Therefore, it is not surprising that Fisheries and Oceans Canada continues to be one of the most petitioned federal departments.

6.31 Issues addressed in petitions forwarded to Fisheries and Oceans Canada included the following:

- loss of fish habitat—in some cases resulting from timber harvesting, residential development, work on highways, and intensive livestock operations;
- marine dump sites in the Atlantic Ocean resulting from the disposal of chemical weapons by the Canadian military after World War II;
- fish farms, including negative effects on wild fish stocks; and
- genetically engineered fish and the risks they pose.

Other concerns raised in petitions

6.32 Other significant issues that were the subject of more than one environmental petition during our reporting period included the following:

- biotechnology—specifically risks posed by genetically modified corn, soya, and fish, and federal regulatory programs and policies on these genetically modified organisms;
- deteriorating water quality (several petitions related to large hog operations);
- delivering on Canada's international commitments to address climate change and protect biological diversity;
- environmental assessment;
- air quality (in particular, emissions resulting from proposed electricity generating stations);
- safeguarding of important wetlands and watersheds;
- protected areas—protecting the ecological integrity of historic waterways, provincial parks, and urban protected spaces; and
- enforcement of federal laws and regulations.

Other issues touched upon include sustainable energy and ecologically friendly housing, citizen participation, information and reporting on federal funding for infrastructure development and renewal, shared jurisdiction for the environment, and the scientific capacity of the federal government. We provide more information on the kinds of issues addressed in recent petitions in the following section.

Who is using the environmental petitions process?

6.33 In the past year, the Commissioner has heard from a number of high-profile, established organizations on a variety of issues. They include the following:

- the Assembly of First Nations—on climate change and environmental stewardship;
- Greenpeace Canada—on genetically engineered fish, soya, and corn;
- Probe International—on CIDA's involvement in a proposed hydro dam in Belize, Central America that could threaten valuable habitat for endangered species.

6.34 However, our statistics show the petitions process is not dominated by established national, political, or environmental organizations. In fact, many petitions have come from small, grass-roots coalitions and volunteer groups, including the following:

- the Coalition of Concerned Citizens of Huron-Kinloss based in Kincardine, Ontario, which is witnessing the effects of huge hog operations on water quality and fish habitat in Lake Huron and surrounding watersheds; and
- SOS Leamy, a coalition of 51 groups in Ottawa-Gatineau opposing the encroachment of a golf course into a public park managed by the National Capital Commission.

A number of regional and provincially based groups are also using the petitions process. These include the following:

- Mouvement Au Courant in Montréal, which is concerned about protecting fish habitat from the effects of timber harvesting in the province of Quebec; and
- the Citizens Environment Alliance of southwestern Ontario and southeast Michigan, which is opposing a 550-megawatt natural gas electricity generating plant slated for the Windsor side of the Detroit River.

6.35 At the same time, a growing number of individuals from cities, towns, villages, and rural areas across Canada, including members of Parliament, are coming forward to ask incisive questions on a broad range of issues:

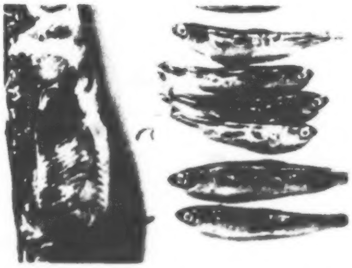
- Bob Mills, Member of Parliament for Red Deer, posed questions to the Minister of the Environment about air emissions that could result from a proposal to establish a power-generating plant in Washington State, close to the Canada–U.S. border.
- David Ellerton of Burnaby, British Columbia is concerned about the fact that the moratorium on new fish farm licences is no longer in effect in British Columbia.
- Peter Weygang who lives on Pigeon Lake, part of the historic Trent–Severn Waterway in Ontario, wants to know why the Parks Canada Agency is allowing a boat launch to be constructed on the waterway in an area regarded as sensitive fish habitat.

How the federal government responds to petitions

The response time is key to the effectiveness of the petitions process

6.36 Federal departments and agencies must respond to petitions and do so within 120 days. This turn-around time of 120 days is a legal requirement set out in section 22 of the *Auditor General Act*. It is also one of the cornerstones of the petitions process. If this time limit is not met, the integrity of the entire process suffers. The Commissioner monitors this deadline very closely and follows up with departments if problems emerge.

6.37 **Fisheries and Oceans Canada is late more often than not.** Fisheries and Oceans Canada failed to meet the deadline most of the time. Of the 13 responses required from the Department during the past year (16 July 2001 to 15 July 2002), only two of the responses were within the time limit stipulated under the *Auditor General Act*. Six responses were late by more than 25 days, including one that exceeded the time limit by over 75 days.



Wild salmon smolts with sea lice caught in the Broughton Archipelago, British Columbia in late spring, 2001 (petition No. [illegible]

Photo: Alexandra Morton

6.38 If it is not possible to meet the 120-day deadline, the *Auditor General Act* stipulates that a minister must notify the petitioner and the Commissioner before the deadline has passed. The Minister of Fisheries and Oceans has never provided such a notification, another breach of the provisions of the *Auditor General Act*.

6.39 **How are other federal departments and agencies doing?** Until recently, Environment Canada was meeting the deadline on a regular basis. However, problems have cropped up during the past year. In the last six months it missed the deadline four times. In the case of most other departments and agencies, late responses were the exception rather than the rule (Exhibit 6.1).

6.40 Fisheries and Oceans Canada, Environment Canada, and Agriculture and Agri-Food Canada have indicated that they are taking steps to improve their compliance with the statutory time limits.

Assuring Canadians that the federal government is addressing their concerns

6.41 As we noted earlier, Canadians who use the petitions process are within their right to expect their petitions to be treated seriously. Federal departments and ministers bound by the process have a responsibility to the Auditor General, the Commissioner, and all Canadians to provide considered replies to petitions—replies that respond directly to the questions and concerns raised in petitions in language that is clear and comprehensible.

6.42 It is evident that many departments and agencies are putting a lot of time and effort into their responses and this is worth noting. Nevertheless, responses that do not adequately address petitioners' requests may be sent back to federal ministers. An example is a petition launched by Algonquin Eco Watch, the Federation of Ontario Naturalists, and the Wildlands League on the decommissioning of the Canadian National main railway line through Algonquin Provincial Park in Ontario (petition No. 27). Following a review of the response provided by the Minister of Transport to this petition, the Commissioner asked the Minister to revisit his response because it did not clearly answer the petitioners' specific questions.

Exhibit 6.1 **Assessment of timeliness of departmental responses to petitions, 16 July 2001 to 15 July 2002**

Petition No.	AAFC	ACOA	CCRA	CIDA	DCH	DFAIT	EC	F&O	Fin	HCan	INAC	IC	Justice	NRCan	Parks	TC	TBS	WD
27A							●									●		
27B																●		
27C							●											
28							●											
29							●									●	●	
30					●		●							●	●			
31					●		●							●	●	●		
32																		
33A								●										
33B																		
33C																		
34A	●		●			●	●			●								
34B	●		●			●	●			●								
35							●								●	●		
36																		
37																		
38		●	●		●	●	●	●		●	●	●		●	●			
39																		
40									●					●		●		
41				●														
42																		
43																		
44	●					●				●			●					
45																●		
46	●																	
47																		
Total petitions	6	1	3	1	3	4	16	13	1	5	1	1	1	4	4	7	1	1
Percentage responded on time	67	100	100	100	100	100	62	15	100	80	100	100	100	100	100	100	100	0

● Responded on time

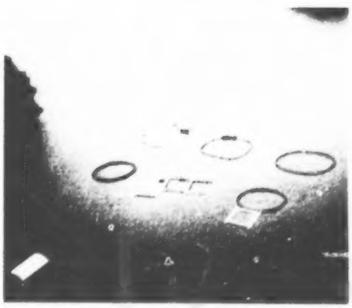
Responded late

Agriculture and Agri-Food Canada (AAFC), Atlantic Canada Opportunities Agency (ACOA), Canada Customs and Revenue Agency (CCRA), Department of Canadian Heritage (DCH), Canadian International Development Agency (CIDA), Environment Canada (EC), Department of Finance Canada (Fin), Fisheries and Oceans Canada (F&O), Department of Foreign Affairs and International Trade (DFAIT), Health Canada (HCan), Indian and Northern Affairs Canada (INAC), Industry Canada (IC), Department of Justice Canada (Justice), Natural Resources Canada (NRCan), Parks Canada Agency (Parks), Transport Canada (TC), Treasury Board Secretariat of Canada (TBS), Western Economic Diversification Canada (WD)

Departmental responses provide insights into key areas of federal policy

6.43 Petitioners often use the petitions process to obtain clarification of federal policies and positions. Our Office regards this as an important benefit flowing from the petitions process because departments are asked to "lay their cards on the table." Several examples follow.

- **The federal government clarified its position on the rearing of genetically engineered (GE) fish.** In a recent petition, Greenpeace Canada wanted confirmation of Canada's position on the rearing of genetically engineered fish (petition No. 35). Greenpeace is opposed to the environmental release of GE organisms, including GE fish, and their commercialization for food. It argues that the risks associated with rearing GE fish in open net pens in oceans, lakes, and rivers are too high. Accidental releases of GE fish from open net pens could lead to potentially devastating effects because GE fish (engineered to grow faster and bigger) would compete, interact, and possibly breed with their wild counterparts. In its petition, Greenpeace pointed out that a moratorium on the rearing of GE fish in aquatic net pens was called for in the Royal Society of Canada's Expert Panel Report on the Future of Food Biotechnology. According to the organization, a federal government representative during meetings of the parties to the North Atlantic Salmon Conservation Organization (NASCO) stated: "There is absolutely no probability at all that we will be considering the use of transgenics in sea pens in the foreseeable future." Greenpeace wanted confirmation that this is indeed Canada's position on this issue. The joint departmental reply to this petition request (prepared by Fisheries and Oceans Canada [DFO], Environment Canada, Health Canada, and six other federal departments) contains the following statement: "DFO supports the NASCO policy statement that the use of transgenic salmon is to be confined to secure, self-contained, land-based facilities."



Example of salmon farm open net pens on marine coast of British Columbia.

- **Getting information on CIDA-funded environmental assessments.** In another case, Probe International sought information from the Canadian International Development Agency about its involvement in an environmental assessment that was conducted for a proposed hydroelectric dam project in Belize (petition No. 41A). One of the questions asked in the petition was whether the Agency would post information about all CIDA-funded environmental assessments on a CIDA public registry. CIDA's reply was categorical. Unless a project is covered under federal environmental assessment legislation (*Canadian Environmental Assessment Act*) and therefore subject to the registry requirements stipulated in that legislation, the only available way to obtain information on CIDA-funded environmental impact assessments is through a request under the *Access to Information Act*.

The Macal River, Belize, near the location of proposed hydroelectric dam, petition No. 41A.

[illegible]

- **Health Canada explained its position on the toxicity of MMT.** Concerns about poor air quality in southwestern Ontario during the spring of 2001 prompted a number of Canadians to launch a petition (petition No. 32). The focus of the petition was the gasoline additive MMT (methylcyclopentadienyl manganese tricarbonyl). The petitioners asked Health Canada to describe what steps it had taken to re-examine the use of MMT since the release of the Department's 1994 risk assessment that reviewed the scientific literature on the direct health effects of manganese and MMT. The petitioners also suggested that Health Canada continues to "support the use of MMT in Canadian gasoline." In his reply on behalf of Health Canada, the Minister of Health described the steps that the Department has taken to re-examine this product since 1994. Some of these steps include the following:

- Health Canada is maintaining a watching brief on MMT, following the science that has been published on the health effects of manganese and exposure to manganese through diet or inhalation, including studies prepared by Canadian researchers.
- Health Canada plans to update the 1994 risk assessment. As part of that update, the Department plans to contract a review of the toxicokinetics of manganese and results of an epidemiology study of manganese neurotoxicity.
- Health Canada has developed a protocol for the study of personal exposure to manganese and other metals in a city with industrial emissions, and it is seeking funding for such a study. Although the Department concluded in its 1994 risk assessment that manganese levels in air in most urban centres did not pose a threat to the health of Canadians, cities with manganese-emitting industries can have levels above the reference concentration.

Poor air quality and the potential risks associated with the gasoline additive MMT were the subject matter of petition No. 5.

The Minister of Health also stated that it was important to correct the statement in the petition that "Health Canada continues to support the use of MMT in Canadian gasoline." According to the Minister, the Department's 1994 risk assessment concluded that "airborne manganese resulting from the combustion of MMT in gasoline-powered vehicles is not entering the Canadian environment in quantities or under conditions that may constitute a health risk." Based on the 1994 risk assessment, the Minister stated that Health Canada has no objection to the use of MMT in gasoline.

Other benefits flowing from environmental petitions

Elk Island National Park, Alberta

Source: Parks Canada, Elk Island National Park of Canada

6.44 Some environmental petitions have led to specific action by federal departments and agencies, including prompt changes in policy and/or procedure or investigations into the issue being raised. These are encouraging responses. They indicate the desire of some departments and agencies to resolve problems that are brought to their attention as well as the potential effectiveness of the environmental petitions process. The following examples illustrate how departments and agencies responded positively to petitions:

- **Petition prompts meeting between Parks Canada Agency and petitioner to discuss concerns about Elk Island National Park.** Parks Canada Agency responded quickly to the concerns raised in a petition from the Alberta Wilderness Association (AWA). Within days of receiving the petition, the AWA met with Park officials. The discussions resolved the petitioner's concerns.

Access to certain environmental assessment reports is the subject of petition No. 28.

- **Fisheries and Oceans Canada deals with concerns about restricted access to environmental assessment reports.** A petition on a proposed 1,200-acre mussel farm in Nova Scotia prompted Fisheries and Oceans Canada to re-evaluate the way that it treats environmental impact reports (petition No. 28). In his petition, Dr. William Fitzgerald alleged that the proponent of the mussel farm was attempting to limit the public's right to access the environmental assessment report prepared for the project. According to him, the company "went to the extreme of copyrighting the assessment, limiting its availability and even monitoring those who accessed the document." In his response to this petition, the Minister of Fisheries and Oceans confirmed that Fisheries and Oceans Canada had not been able to provide the environmental impact report to all parties who requested it. He informed the petitioner that "DFO has re-evaluated its procedure for dealing with such documents by notifying proponents that documents needed to conduct an environmental assessment will not be accepted by the Department if they cannot be shared with interested parties."

Part of the decommissioned Canadian National main railway line through Algonquin Provincial Park, Ontario (petitions No. 27A, No. 27B, and No. 27C)

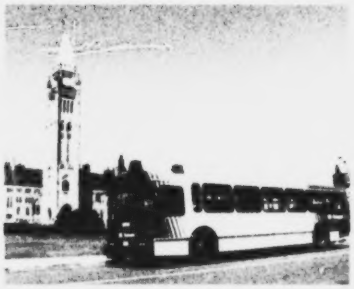
Source: Algonquin Eco Watch

- **Petition on railway decommissioning leads to a site visit by federal environmental officials.** A petition launched by Algonquin Eco Watch and two other organizations prompted a site visit by officials from Environment Canada and Fisheries and Oceans Canada who examined environmental problems arising from decommissioning of the Canadian National main railway line through Algonquin Provincial Park (petition No. 27A and related petitions No. 27B and No. 27C).

- **Buying transit passes through payroll deduction is now an option for some federal public servants in the National Capital Region.** Environment Canada, Transport Canada, and the Treasury Board Secretariat were asked to respond to a petition launched by several federal public servants from the National Capital Region (petition No. 29). The petitioners wanted the federal government to take advantage of an offer by local transit authorities that would allow riders to purchase yearly transit passes through payroll deduction. According to the petitioners, this kind of program would provide substantial savings for riders and could generate significant environmental benefits due to increased use of public transit and thus less road congestion and lower levels of greenhouse gas emissions. The petitioners claimed that the federal government, specifically the Treasury Board, had refused to implement this program for federal public servants.

  The petition prompted a meeting of representatives from all three of the responding departments to discuss the petition request. The three departments were working closely together to develop a pilot program for transit in the National Capital Region and expected to make an announcement about the launch of the program in February 2002.

  The formal announcement about the one-year pilot project was made in June 2002. Effective November 2002, employees of the three departments as well as those of Natural Resources Canada will be able to



Federal public servants launched a petition aimed at increasing usage of public transit by federal government employees (petition No. 29)

Source: OC Transpo (Dan Duclos)

purchase an annual discounted transit pass through monthly payroll deduction.

If the program is successful, it may be made available to other federal departments in the National Capital Region and across Canada, where the option exists.

Conclusion

6.45 Parliamentarians and all Canadians have a right to know whether the government is taking environmental and sustainable development issues seriously. The environmental petitions process under the *Auditor General Act* provides them with a forum to hold the federal government accountable. With a simple letter, Canadians can raise questions and concerns, and get answers and action from the federal government.

6.46 Awareness and use of the process are growing. Recent petitions show the benefits that can result from using the environmental petitions process. For example, government organizations have changed or clarified their policies, undertaken site inspections, and launched a new project.

6.47 The Commissioner of the Environment and Sustainable Development is convinced that the petitions process offers great promise and intends to make sure it realizes that potential.

Appendix A Federal departments and agencies subject to the environmental petitions process

The petitions process applies to 25 federal departments and agencies:

Agriculture and Agri-Food Canada
Atlantic Canada Opportunities Agency
Canada Customs and Revenue Agency (formerly Revenue Canada)
Canada Economic Development Agency for Quebec Regions
Canadian Heritage, Department of
Canadian International Development Agency
Citizenship and Immigration Canada
Environment Canada
Finance Canada, Department of
Fisheries and Oceans Canada
Foreign Affairs and International Trade, Department of
Health Canada
Human Resources Development Canada
Indian and Northern Affairs Canada
Industry Canada
Justice Canada, Department of
National Defence
Natural Resources Canada
Parks Canada Agency
Public Works and Government Services Canada
Solicitor General Canada
Transport Canada
Treasury Board of Canada, Secretariat
Veterans Affairs Canada
Western Economic Diversification Canada

Appendix B [illegible]

To access the full text of petitions and replies from December 1995 to 15 July 2002, go to our Petitions Catalogue on our Web site (www.oag-bvg.gc.ca/environment — see Environmental Petitions). If necessary, paper copies of the catalogue can be obtained on request.

Petition No. 54: Sea lice infestation of wild salmon smolts, British Columbia — Federal management of salmon aquaculture

Date submitted: 27 May 2002

Petitioner(s): Musgamagw Tsawataineuk Tribal Council

Summary: The petitioner raised concerns about the overall management of the salmon aquaculture industry in British Columbia in the wake of an alleged outbreak of sea lice in wild salmon smolts in the Broughton Archipelago (in the Queen Charlotte Sound) in 2001. The Tribal Council asserts that there is evidence to suggest that the sea lice originated from fish farms in the area.

Issues: Fisheries (aquaculture) (habitat)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Reply pending

Petition No. 53: Ecological integrity in Elk Island National Park, Alberta

Date submitted: 23 May 2002

Petitioner(s): Alberta Wilderness Association

Summary: The Alberta Wilderness Association (AWA) expressed concern about the draft management plan and vegetation implementation plan developed by Parks Canada for Elk Island National Park in Alberta. The petition prompted a meeting between the AWA and Park officials that led to a resolution of a number of issues. The AWA withdrew its petition shortly after.

Issues: Biological diversity (protected areas)

Federal departments/agencies replying: Parks Canada Agency

Status: Withdrawn

Petition No. 52: First Nations participation in climate change strategies

Date submitted: 6 May 2002

Petitioner(s): Assembly of First Nations

Summary: The petition concerns the engagement of First Nations and the Assembly of First Nations (AFN) in federal climate change activities and the Indian and Northern Affairs Canada Environmental Stewardship Strategy for Reserve Lands. The AFN specifically requested information pertaining to funds that had been earmarked to engage First Nations in the development of federal strategies to address climate change, including an Aboriginal climate change strategy.

Issues: Air issues (climate change), international/bilateral issues, and other (Aboriginal concerns)

Federal departments/agencies replying: Environment Canada, Indian and Northern Affairs Canada, and Natural Resources Canada

Status: Replies pending

Petition No. 51: Proposed boat launch for the Trent–Severn Waterway, Ontario

Date submitted: 30 April 2002

Petitioner(s): Peter Weygang

Summary: The petition concerns the proposed construction of a public boat launch ramp on Pigeon Lake, which forms a part of the Trent–Severn Waterway. The petitioner asserted that notwithstanding Parks Canada's original position to prohibit development at the location in question (sensitive fish habitat), the Agency issued a permit authorizing the construction of a boat launch in February 2002.

Issues: Fisheries (habitat), biological diversity (wildlife), and water issues (water quality)

Federal departments/agencies replying: Parks Canada Agency and Fisheries and Oceans Canada

Status: Replies pending

Petition No. 50: Military dumpsites off Canada's Atlantic coast

Date submitted: 2 April 2002

Petitioner(s): Myles Kehoe

Summary: The petitioner raised concerns about the proposed oil and gas exploration projects off Canada's Atlantic coast. Through his own research, the petitioner has documented the presence of numerous chemical weapons dumpsites and military dumpsites of unexploded ordnances off the coast of Nova Scotia and Newfoundland. The petitioner expressed concern about the potential impacts that oil and gas exploration might have on these sites.

Issues: Water issues (marine environment/oceans), other (military/defence), and renewable and non-renewable resources (energy)

Federal departments/agencies replying: Department of Foreign Affairs and International Trade, Department of National Defence, Environment Canada, Fisheries and Oceans Canada, Health Canada, and Natural Resources Canada

Status: Replies pending

Petition No. 49: Protecting fish habitat — Forestry practices in British Columbia

Date submitted: 26 March 2002

Petitioner(s): Natural Resources Defence Council Environmental Education Society (NRDC)

Summary: The petitioner is concerned about logging practices in British Columbia relative to fish habitat. The NRDC alleges that government authorities are not enforcing the provisions of the *Fisheries Act* and policies on buffer zones around small and feeder streams.

Issues: Fisheries (habitat) (enforcement) and renewable and non-renewable resources (forestry)

Federal departments/agencies replying: Fisheries and Oceans Canada and Environment Canada

Status: Replies pending

Petition No. 48: Environmental impacts of proposed power generating station

Date submitted: 12 March 2002

Petitioner(s): Citizens Environment Alliance of southwestern Ontario and southeast Michigan

Summary: This petition concerns a proposal to locate a 580-megawatt natural gas electricity generating station on the Canadian side of the Detroit River in Windsor, Ontario. Among other things, the Alliance is concerned about air emissions and discharges of large quantities of heated cooling water into the river.

Issues: Fisheries (habitat), air issues (air quality), environmental assessment, international bilateral issues (international environmental agreements), renewable and non-renewable resources (energy), and water issues (aquatic ecosystems) (navigable waters) (water quality)

Federal departments/agencies replying: Fisheries and Oceans Canada and Environment Canada

Status: Replies pending

Petition No. 47: Lifting of the moratorium on new fish farming licences, British Columbia

Date submitted: 27 February 2002

Petitioner(s): David Elderton

Summary: The petitioner expressed concern about the lifting of the moratorium on new fish farming licences in British Columbia. He cited a recent inquiry into salmon farming in B.C. and requested that Fisheries and Oceans Canada take steps to ensure that the provincial decision to lift the moratorium will not lead to further environmental problems.

Issues: Fisheries (aquaculture)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Reply pending

Petition No. 46: Environmental impacts of intensive livestock operations, southern Manitoba

Date submitted: 31 January 2002

Petitioner(s): Two Canadian residents

Summary: The petitioners raised concerns about the encroachment of intensive hog operations in southern Manitoba and impacts on groundwater quality. They requested information on federal regulatory controls to protect groundwater quality and protect the environment. They also asked that an environmental assessment be conducted for their region.

Issues: Agriculture (manure management) (intensive livestock operations), environmental assessment, and water issues (groundwater)

Federal departments/agencies replying: Environment Canada and Agriculture and Agri-Food Canada

Status: Completed

Petition No. 45: Preserving the Canada Southern Railway in southern Ontario

Date submitted: 24 January 2002

Petitioner(s): Rail Ways to the Future Committee (a working committee of Transport 2000 Ontario Inc.)

Summary: The petitioner expressed concern about the possible abandonment and decommissioning of the largely dormant Canada Southern Railway in southern Ontario (see also petition No. 2). The Committee also presented concerns and posed questions on the future of rail in Canada generally. Among the petition requests, the petitioner asked the Minister of Transport to initiate a Rail Renewal Task Force.

Issues: Transportation (sustainable transportation) (railways)

Federal departments/agencies replying: Transport Canada

Status: Completed

Petition No. 44: Post-approval monitoring of genetically modified organisms (GMOs)

Date submitted: 18 January 2002

Petitioner(s): Greenpeace Canada

Summary: The petitioner posed a series of questions about Canada's regulatory regime for GMOs, in particular the federal government's monitoring of GMOs following their approval. Specific questions were posed on Monsanto's Round-Up Ready™ soybean.

Issues: Biotechnology (GMOs) (regulations and policies) (enforcement and compliance)

Federal departments/agencies replying: Agriculture and Agri-Food Canada, Health Canada, Department of Foreign Affairs and International Trade, and the Department of Justice Canada

Status: Completed

Petition No. 43: The environmental sustainability of federal infrastructure funding

Date submitted: 12 December 2001

Petitioner(s): Canadian resident

Summary: The petitioner questioned the environmental sustainability of various federally funded infrastructure programs and expressed concern about the quality of federal reporting for these programs. The petitioner requested information on infrastructure programs and projects sponsored through Western Economic Diversification Canada, the Prairie Farm Rehabilitation Administration of Agriculture and Agri-Food Canada, and the Treasury Board Secretariat (TBS). (Note: Responsibility for infrastructure was transferred from the TBS shortly before the petition was submitted; therefore, a reply was not required from this federal organization.)

Issues: Other (infrastructure) (information and reporting)

Federal departments/agencies replying: Western Economic Diversification Canada and Agriculture and Agri-Food Canada

Status: Completed

Petition No. 42: Hull Casino golf course development, Quebec

Date submitted: 7 December 2001

Petitioner(s): Coalition pour la sauvegarde du parc du lac Leamy

Summary: The petitioner represents a coalition of 31 organizations in the Ottawa-Gatineau area. The Coalition is concerned about the proposed development of the Hull Casino golf course in Lake Leamy Park and its attendant environmental impacts—for example, on fish habitat, wildlife, and the public. The coalition requested that the project be the subject of a panel review under the *Canadian Environmental Assessment Act*. The petition was accompanied by about 14,000 signatures.

Issues: Environmental assessment, biological diversity (protected areas) (wildlife) (wetlands), and water issues (watershed protection)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Reply pending

Petition No. 41B: Belizean hydro dam project and the Canadian International Development Agency

Date submitted: 11 June 2002

Petitioner(s): Probe International

Summary: In this petition, which is a follow-up to petition No. 41A, Probe International sought further information about the Canadian International Development Agency's (CIDA) involvement in a proposed hydro dam project in Belize, Central America. The organization also sought clarification on CIDA's policies related to environmental assessments for foreign projects, particularly hydro dams. The organization submitted 12 detailed questions.

Issues: Environmental assessment and international/bilateral issues (international development assistance)

Federal departments/agencies replying: Canadian International Development Agency

Status: Reply pending

Petition No. 41A: Belizean hydro dam project and the Canadian International Development Agency

Date submitted: 6 December 2001

Petitioner(s): Probe International

Summary: The petitioner questioned the Canadian International Development Agency's (CIDA) involvement in an environmental assessment that was conducted for a proposed hydroelectric dam project in Belize, Central America. According to Probe International, construction of the dam would lead to potentially irreversible impacts on the biological diversity of the region and to the flooding of several archaeologically significant Mayan ruins.

Issues: Environmental assessment, international/bilateral issues, and biological diversity (wildlife) (habitat)

Federal departments/agencies replying: Canadian International Development Agency

Status: Completed

Petition No. 40: Reducing emissions of greenhouse gases

Date submitted: 26 November 2001

Petitioner(s): Maya Bevan

Summary: The petitioner is interested in taking steps, on a personal level, to reduce greenhouse gas emissions. She asked the federal government to describe what federal initiatives or programs (including tax breaks) are available to assist homeowners to build environmentally friendly homes (for example, a house constructed from hay bales) and use green power sources.

Issues: Air issues (climate change), international/bilateral issues (climate change), renewable and non-renewable resources (energy conservation), and other (economic instruments)

Federal departments/agencies replying: Department of Finance Canada, Natural Resources Canada, Environment Canada, and Transport Canada

Status: Completed

Petition No. 39: Environmental impacts of intensive hog operations, New Brunswick

Date submitted: 22 November 2001

Petitioner(s): Le Comité de la santé publique et de l'environnement du Madawaska (Le Co-Sa-Pue)

Summary: The focus of this petition is the development of intensive hog operations in New Brunswick. The petitioner expressed concern about impacts on water quality and fish habitat in local waterways and potential economic losses in the region from reduced recreation, tourism, and sport fishing.

Issues: Agriculture (manure management) (intensive livestock operations), fisheries (habitat), and water issues (aquatic ecosystems) (water quality)

Federal departments/agencies replying: Fisheries and Oceans Canada, Environment Canada, and Agriculture and Agri-Food Canada

Status: Completed

Petition No. 38: Genetically engineered fish

Date submitted: 22 November 2001

Petitioner(s): Greenpeace Canada

Summary: The petitioner requested information about federal government policy concerning the rearing of genetically engineered (GE) fish. Greenpeace maintains that all GE fish should be raised in secure, land-based facilities as the risks associated with rearing GE fish in open net pens in oceans and lakes are too high. Greenpeace posed eight very detailed questions in the petition.

Issues: Biotechnology (GMOs) (regulation and policy) and fisheries (aquaculture)

Federal departments/agencies replying: Fisheries and Oceans Canada, Environment Canada, Health Canada, Parks Canada Agency, Natural Resources Canada, Indian and Northern Affairs Canada, Canada Customs and Revenue Agency, Department of Foreign Affairs and International Trade, and Industry Canada

Status: Completed

Petition No. 37: Large intensive livestock operations in the Lake Huron region—Watershed impacts

Date submitted: 18 February 2002

Petitioner(s): Coalition of Concerned Citizens of Huron-Kinloss

Summary: Members of the Coalition are concerned about intensive agricultural operations, particularly hog operations and water quality impacts in the Lake Huron region. They requested information from Environment Canada and Fisheries and Oceans Canada on the steps both departments are taking to strengthen environmental safeguards and controls to protect the health of humans and the environment in the areas around these livestock operations.

Issues: Agriculture (manure management) (intensive agricultural operations), water issues (water quality), and fisheries (habitat)

Federal departments/agencies replying: Fisheries and Oceans Canada and Environment Canada

Status: Completed

Petition No. 36: Transboundary air pollution and obligations under the Canada-U.S. Air Quality Accord

Date submitted: 20 August 2001

Petitioner(s): Bob Mills, Member of Parliament

Summary: The petitioner raised concerns about the proposed construction of a large power generating station in Washington State and cross-border pollution arising from the station. The petitioner further inquired into whether Canada is fulfilling its obligations under the Canada-U.S. Air Quality Accord in relation to this proposed project.

Issues: Air issues (air quality) (transboundary concerns) and international/bilateral issues (international environmental agreements) (transboundary concerns)

Federal departments/agencies replying: Environment Canada

Status: Completed

Petition No. 35: Request for an environmental assessment for the Black-Farewell wetland complex, Ontario

Date submitted: 13 September 2001

Petitioner(s): Friends of the Farewell

Summary: This is a follow-up to petition No. 17. The organization's main concern is the protection of the Black-Farewell wetland complex watershed, east of Toronto. The petitioner alleged that proposed infrastructure and highway projects within the region (such as the extension of Highway 407) would lead to adverse impacts on the wetland and surrounding watershed. The organization requested that full-scale environmental assessments and justifications be done for these projects in order to protect the wetland.

Issues: Environmental assessment, fisheries (habitat) (conservation), water issues (aquatic ecosystems) (groundwater) (watershed protection) (water quality), biological diversity (conservation) (habitat) (wetlands), transportation (sustainable transportation), and other (infrastructure)

Federal departments/agencies replying: Fisheries and Oceans Canada, Environment Canada, Parks Canada Agency, and Transport Canada

Status: Completed

Petition No. 34B: Genetically modified organisms—Follow-up petition on Canada's response to the Starlink™ corn controversy

Date submitted: 18 January 2002

Petitioner(s): Greenpeace Canada

Summary: In this petition, which is a follow-up to petition No. 34A, the petitioner posed further questions related to Starlink™ corn.

Issues: Biotechnology (GMOs) (enforcement), international/bilateral issues (trade)

Federal departments/agencies replying: Agriculture and Agri-Food Canada, Environment Canada, Health Canada, Department of Foreign Affairs and International Trade, and Canada Customs and Revenue Agency

Status: Completed

Petition No. 34A: Genetically modified organisms—Canada's response to the Starlink™ corn controversy

Date submitted: 23 July 2001

Petitioner(s): Greenpeace Canada

Summary: The petition addresses concerns about a transgenic (GMO) corn with the trade name of Starlink™. This corn is not approved for use as a food or as animal feed in Canada. In the United States, it is approved for animal feed but not as a food. Greenpeace alleged that some Starlink™ corn made its way into the food supply in the United States and ultimately into Canada. The organization posed a number of questions in the petition. Some are directly related to Canada's actions in the wake of the Starlink™ controversy. Others are more general and relate to Canada's actions to protect our agricultural exports and prevent farmers from planting seeds contaminated with corn like Starlink™.

Issues: Biotechnology (GMOs) (enforcement) and international/bilateral issues (trade)

Federal departments/agencies replying: Agriculture and Agri-Food Canada, Environment Canada, Health Canada, Department of Foreign Affairs and International Trade, and Canada Customs and Revenue Agency

Status: Completed

Petition No. 33C: Environmental assessment—Forestry in Quebec

Date submitted: 27 November 2001

Petitioner(s): Mouvement Au Courant

Summary: This is a follow-up to petition No. 33A (see also petition No. 33B). In petition No. 33C, Mouvement Au Courant pointed to information provided in Fisheries and Oceans Canada's February 2001 report on protection of fish habitat and pollution prevention. The report indicates that 717 projects related to forestry in British Columbia were examined during the reporting period. In Quebec, only one project was examined. The petitioner asked the Minister to explain this discrepancy.

Issues: Fisheries (habitat) (enforcement), renewable and non-renewable resources (forestry), and environmental assessment

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 33B: Protecting fish habitat in Quebec and other provinces

Date submitted: 20 November 2001

Petitioner(s): Mouvement Au Courant

Summary: This is a follow-up to petition No. 33A. In his reply to that petition, the Minister of Fisheries and Oceans provided information about new resources allocated for fish habitat protection. The petitioner challenged the statements made in the reply and asked the Minister to confirm staffing numbers for habitat protection in every province. The petitioner also presented comparative statistics reflecting the number of projects that are assessed under the *Canadian Environmental Assessment Act* (CEAA) on a province-by-province basis. The organization asked the Minister to explain why Quebec accounts for only 4.6 percent of all projects assessed nationally.

Issues: Environmental assessment, fisheries (habitat) (enforcement), and renewable and non-renewable resources (forestry)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 33A: Enforcement of the *Fisheries Act* in Quebec

Date submitted: 26 July 2001

Petitioner(s): Mouvement Au Courant

Summary: The petitioner suggested that Fisheries and Oceans Canada is not enforcing the federal *Fisheries Act* in Quebec, especially in relation to forestry and logging activities in the province (see related petitions No. 33B and No. 33C).

Issues: Fisheries (habitat), renewable and non-renewable resources (forestry)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 32: Fuel additive MMT

Date submitted: 3 July 2001

Petitioner(s): Several Canadian residents

Summary: The petitioners requested information from Health Canada on the gasoline additive MMT (methylcyclopentadienyl manganese tricarbonyl). The petitioners expressed concern about poor air quality in southwestern Ontario during the last half of June 2001 and suggested a link with MMT. They asked Health Canada to explain what steps the Department had taken to re-examine the use of the gasoline additive.

Issues: Human health/environmental health and air issues (air quality)

Federal departments/agencies replying: Environment Canada and Health Canada

Status: Completed

Petition No. 31: Highway extension through Gatineau Park, National Capital Region

Date submitted: 14 June 2001

Petitioner(s): Conseil regional de l'environnement et du développement durable de l'Outaouais (CREDDO)

Summary: The proposed construction of a highway in Gatineau (formerly Hull), Quebec is the subject addressed in this petition. The petitioner alleged that the highway will extend approximately 1.4 kilometres into Gatineau Park, a federal park that is managed by the National Capital Commission, a federal Crown corporation. The petitioner posed questions to five federal departments; many of these questions related to the application of the *Canadian Environmental Assessment Act*.

Issues: Environmental assessment and biological diversity (protected areas)

Federal departments/agencies replying: Department of Canadian Heritage, Environment Canada, Fisheries and Oceans Canada, Natural Resources Canada, Parks Canada Agency, and Transport Canada

Status: Completed

Petition No. 30: Hull Casino golf course development in an urban conservation park

Date submitted: 14 June 2001

Petitioner(s): Conseil régional de l'environnement et du developpement durable de l'Outaouais (CREDDO)

Summary: This petition concerns a proposal to locate an 18-hole golf course in an urban conservation park in Hull, Quebec (now Gatineau, Quebec). Leamy Lake Park encompasses a small lake and is adjacent to the Gatineau River. According to the petitioner, part of park property is owned by a federal Crown corporation, the National Capital Commission. The project was undergoing an environmental assessment under the *Canadian Environmental Assessment Act*.

Issues: Environmental assessment, fisheries (habitat), and biological diversity (protected areas) (wildlife) (habitat) (wetlands)

Federal departments/agencies replying: Department of Canadian Heritage, Environment Canada, Fisheries and Oceans Canada, Natural Resources Canada, and Parks Canada Agency

Status: Completed

Petition No. 29: Encouraging greater use of urban transit by federal public servants

Date submitted: 12 June 2001

Petitioner(s): Arun Thangaraj and numerous Canadian residents

Summary: The petitioners are residents of the National Capital Region and are employees of the Public Service of Canada. According to the petitioners, the Treasury Board had refused to take advantage of an offer made by local transit authorities that would extend substantial savings to riders if they purchased yearly transit passes through payroll deduction. The petitioners suggested that by making this program available to federal public servants, significant environmental benefits would be realized through increased use of public transportation and a reduced number of vehicles on congested roads and highways.

Issues: Transportation (sustainable transportation)

Federal departments/agencies replying: Environment Canada, Treasury Board Secretariat, and Transport Canada

Status: Completed

Petition No. 28: Environmental assessment for a proposed mussel farm

Date submitted: 29 May 2001

Petitioner(s): William Fitzgerald

Summary: The petitioner opposes a proposal to locate a 1,200 acre mussel farm in St. Ann's Bay, Cape Breton, Nova Scotia on two grounds—the federal environmental assessment process and lack of credible supporting scientific evidence. The petitioner alleged that the impact assessment was done by a private company contracted by the proponent of the project and that public access to the report was limited in a number of ways. He also suggested that the impact assessment purporting to support this project was based on a computer model that was flawed in several respects.

Issues: Environmental assessment, fisheries (aquaculture) and water issues (water quality)

Federal departments/agencies replying: Environment Canada and Fisheries and Oceans Canada

Status: Completed

Petition No. 27C: Railway decommissioning in Algonquin Provincial Park, Ontario

Date submitted: 18 February 2002

Petitioner(s): Algonquin Eco Watch, Wildlands League, Federation of Ontario Naturalists, and the Sierra Club, Eastern Canada Chapter

Summary: This petition relates to petition No. 27A. The petitioners questioned the response to that petition provided by the Minister of the Environment. They also asked what, if any, enforcement action Environment Canada was taking under the pollution provisions of the *Fisheries Act* (see also petition No. 27B).

Issues: Fisheries (habitat), water issues (water quality) (watershed protection), biological diversity (wildlife) (watershed protection), and transportation (railways)

Federal departments/agencies replying: Environment Canada

Status: Completed

Petition No. 27B: Railway decommissioning in Algonquin Provincial Park, Ontario

Date submitted: 13 February 2002

Petitioner(s): Algonquin Eco Watch, Wildlands League, Federation of Ontario Naturalists, and the Sierra Club, Eastern Canada Chapter

Summary: This is a follow-up to petition No. 27A. The petitioners inferred from the response of the Minister of Transport to this previous petition that there was no federal protocol to ensure that railway lines are decommissioned in an environmentally responsible manner. The petitioners requested that a protocol be established (see related petition No. 27C).

Issues: Transportation (railways)

Federal departments/agencies replying: Transport Canada

Status: Completed

Petition No. 27A: Railway decommissioning in Algonquin Provincial Park, Ontario

Date submitted: 28 May 2001

Petitioner(s): Algonquin Eco Watch, Federation of Ontario Naturalists, and the Wildlands League

Summary: The petitioners alleged that the decommissioning of the Canadian National (CN) main railway line through Algonquin Provincial Park, Ontario, was not carried out in an environmentally responsible or timely manner. Many of the problems identified in the petition stem from the construction of a right-of-way to facilitate the removal of tracks and ties. Bulldozing caused ballast from the roadbed to spill into nearby creeks and lakes, thereby damaging fish habitat and posing a danger to birds and mammals in the park. The petitioners directed specific questions to three federal departments. These questions dealt with fish habitat, water quality, wildlife protection, and whether there is a specific federal protocol for railway decommissioning in Canada (see related petitions No. 27B and No. 27C).

Issues: Transportation (railways), fisheries (habitat), water issues (water quality), and biological diversity (wildlife) (protected areas)

Federal departments/agencies replying: Environment Canada, Fisheries and Oceans Canada, and Transport Canada

Status: Completed

Petition No. 26: Protecting migratory birds

Date submitted: 24 October 2000

Petitioner(s): Animal Alliance of Canada, Ontario Field Ornithologists, and a Canadian resident (on behalf of Friends of the Spit)

Summary: The petition concerns a decision by the Canadian Wildlife Service (CWS) to authorize the destruction of several migratory bird nests on the Leslie Street spit on Toronto's waterfront. According to the petitioners, on 1 June 1998, a bulldozer graded lands that hosted a substantial colony of common tern nests, thus destroying several active nests. Terns are migratory birds and are protected in Canada under the *Migratory Birds Convention Act*. The purpose of the petition was to require the CWS to examine how the destruction that occurred on 1 June 1998 was "purported" to be authorized and how improvements can be made in the administration of the permits process so that problems like these do not reoccur.

Issues: Biological diversity (wildlife) (habitat)

Federal departments/agencies replying: Environment Canada

Status: Completed

Petition No. 25: Regulating toxic substances and protecting drinking water

Date submitted: 12 October 2000

Petitioner(s): Beckwith Water Contamination Committee

Summary: The petition questions the federal government's failure to regulate the toxic substance trichloroethylene (TCE) and requests a review of the Canadian Drinking Water Guideline for this substance in light of new scientific evidence. TCE and its degradation products have contaminated the water supply of over 200 homes in Beckwith Township, a small Ontario community near Ottawa.

Issues: Human health/environmental health (toxic substances) and water issues (drinking water) (groundwater)

Federal departments/agencies replying: Environment Canada and Health Canada

Status: Completed

Petition No. 24: Ensuring sustainable timber harvesting in the Yukon

Date submitted: 8 August 2000

Petitioner(s): Yukon Conservation Society and Southeast Yukon Proper Land Use Society

Summary: The petitioners expressed concern about a proposal put forward by Indian and Northern Affairs Canada that would allocate a significant amount of commercial timber resources of the southeast Yukon through timber harvest agreements (THAs). The southeast Yukon region represents one of the last largely untouched boreal forests in Canada. According to the petitioners, the proposed allocation of long-term forestry tenures through THAs is being done in the absence of regional forest land-use planning and is contrary to the goals outlined in the Department's sustainable development strategy. Several actions are proposed to ensure sustainable forestry development in the Yukon.

Issues: Northern issues, renewable and non-renewable resources (forestry), and environmental assessment

Federal departments/agencies replying: Indian and Northern Affairs Canada

Status: Completed

Petition No. 23: Federal laws, regulations, and policies on genetically modified organisms (GMOs)

Date submitted: 9 May 2000

Petitioner(s): Canadian Institute for Environmental Law and Policy (CIELAP), Council of Canadians, Dr. Bert Christie, and Dr. E. Ann Clark

Summary: The petition is a critique of federal laws, regulations, and policies concerning GMOs. It argues that the federal approach toward GMOs is not consistent with the principles of sustainable development. The petitioners asked the federal government to review its laws, regulations, and policies on a number of fronts and to adopt a series of suggested measures aimed at protecting the health, safety, and environment of Canadians from GMOs.

Issues: Biotechnology (GMOs) (regulations and policies) (enforcement)

Federal departments/agencies replying: Agriculture and Agri-Food Canada, Environment Canada, Fisheries and Oceans Canada, Health Canada, Industry Canada, and Natural Resources Canada

Status: Completed

Petition No. 22: Moving toward sustainable transportation

Date submitted: 18 April 2000

Petitioner: The Society for Conservation Biology, Kingston Chapter

Summary: The Society expressed concern about transportation policy in Canada. Members were particularly alarmed by the accelerating rate at which highways and urban sprawl are paving over natural habitats. They strongly believe the government must take a more active role in promoting and supporting environmentally sound modes of transportation before further environmental, health, and economic damage occurs. The Society outlined six recommendations for federal action in the petition.

Issues: transportation (sustainable transportation) and biological diversity (habitat)

Federal departments/agencies responsible for reply: Transport Canada

Status: Completed

Petition No. 21: Sustainable development in Jasper National Park

Date submitted: 10 January 2000

Petitioner(s): Canadian resident

Summary: The petitioner suggested that the Parks Canada Agency had not developed information on the three dimensions of sustainable development (economic, environmental, and social). The petitioner alleged that the Banff-Bow Valley Study, the Jasper Management Plan, and the Jasper Community Plan lacked social and economic data. The petitioner also alleged that the National Parks Revenue Policy, which states that science is to be funded only from appropriations, is ignored within Jasper National Park.

Issues: Biological diversity (protected areas)

Federal departments/agencies replying: Parks Canada Agency

Status: Completed

Petition No. 20: Use of pesticides on ginseng farms in British Columbia

Date submitted: 25 August 1999

Petitioner(s): Nelson Riis, Member of Parliament, on behalf of residents from the Kamloops region of British Columbia

Summary: The petitioner raised concerns about the use of pesticides, herbicides, and fertilizers on ginseng farms throughout central British Columbia and how these chemicals might be affecting the land, local river systems, and the health of farm workers.

Issues: Human health/environmental health (pesticides)

Federal departments/agencies replying: Health Canada

Status: Completed

Petition No. 19: Enforcement of federal environmental regulations—Pulp mill discharges

Date submitted: 30 November 1998

Petitioner(s): Canadian resident

Summary: The petitioner expressed concerns about discharges from the Pine Falls paper mill in Pine Falls, Manitoba. The petitioner requested an investigation of the mill's discharges and chemical spills, and raised questions about unsustainable forest practices and unauthorized construction of bridges to serve logging roads.

Issues: Environmental assessment, water issues (navigable waters) (water quality) (enforcement), and other (Aboriginal concerns)

Federal departments/agencies replying: Environment Canada and Fisheries and Oceans Canada

Status: Completed

Petition No. 18: Timber harvesting in the Yukon

Date submitted: 1 September 1998

Petitioner(s): Richard and Brenda Oziewicz

Summary: The petitioners expressed concern over Indian and Northern Affairs Canada's decision to recommend an allowable timber cut of up to 89,000 cubic metres for the next 400 years in the Nisutlin Management Area. Historically, the cut has been 2,000 cubic metres annually.

Issues: Renewable and non-renewable resources (forestry) and northern issues

Federal departments/agencies replying: Indian and Northern Affairs Canada

Status: Completed

Petition No. 17: Protecting a valuable watershed and wetlands in the Greater Toronto Area

Date submitted: 27 July 1998

Petitioner(s): Friends of the Farewell

Summary: The petitioner raised concerns about the effects of development in and around Courtice, Ontario on the Farewell and Black Creek watershed. The organization requested that an environmental assessment be done to identify problems before additional development occurs; this would ensure the protection and rehabilitation of the fishery and fish habitat and the overall integrity of the watershed and the Second Marsh near Oshawa, Ontario (see related petition No. 35).

Issues: Environmental assessment, fisheries (habitat), water issues (water quality) (watershed protection), and biological diversity (wetlands)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 16: Federal environmental assessment—Lake Simcoe, Ontario

Date submitted: 22 July 1998

Petitioner(s): Lakewatch Society—Lake Simcoe

Summary: The petitioner was highly critical of the environmental assessment done for the redevelopment of Jackson's Point Harbour in Lake Simcoe (see related petition No. 13).

Issues: Environmental assessment, fisheries (habitat), water issues (water quality), and other (heritage conservation)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 15: Construction of a dam on the Englishman River, Vancouver Island

Date submitted: 22 July 1998

Petitioner(s): Society for the Preservation of the Englishman River Estuary

Summary: The petitioner alleged that appropriate federal environmental approvals or permits had not been granted prior to the construction of a dam on the Englishman River; nor were downstream effects from the dam studied appropriately.

Issues: Environmental assessment, fisheries (habitat), and water issues (navigable waters)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 14: Coho conservation plan

Date submitted: 15 July 1998

Petitioner(s): West Coast Sustainability Association

Summary: The petitioner criticized Fisheries and Oceans Canada's 1998 coho conservation plan. In particular, the Association alleged that departmental officials made decisions contradictory to the Department's sustainable development and scientific findings.

Issues: Fisheries (conservation)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 13: Federal environmental assessment—Lake Simcoe, Ontario

Date submitted: 29 June 1998

Petitioner(s): Canadian resident

Summary: The environmental assessment process for the redevelopment of Jackson's Point Harbour, Lake Simcoe is the subject of this petition. The petitioner alleged that the environmental assessment done for the project failed to take into account significant environmental impacts and that required mitigation measures were not properly implemented. Furthermore, the petitioner alleged that no attention was paid to an historic marine railway near the construction site.

Issues: Environmental assessment, fisheries (habitat), water issues (water quality), and other (heritage conservation)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 12: Petitcodiac River, New Brunswick

Date submitted: 8 June 1998

Petitioner(s): Lake Petitcodiac Preservation Association

Summary: The petitioner requested an investigation of environmental issues in the Petitcodiac River Valley of New Brunswick resulting from actions of Environment Canada and Fisheries and Oceans Canada. The Association alleged that the federal ministers responsible for these departments had acted improperly in obtaining provincial agreement for the trial opening of the Petitcodiac River Gates. The petitioner requested a full-scale, independent environmental assessment of the proposed trial gate opening.

Issues: Environmental assessment and other (federal/provincial co-operation)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 11: Crown obligations to First Nations

Date submitted: 4 May 1998

Petitioner(s): Athabasca Chipewyan First Nation

Summary: The petitioner alleged that the construction and operation of the WAC Bennett Dam by B.C. Hydro has permanently destroyed the environment of Indian Reserve 201 (in particular the habitat base for wildlife on the Reserve) and therefore negatively affected a major source of economic opportunity for the First Nation. The matter has been the subject of a long standing claim by the First Nation against the federal Crown.

Issues: Other (Aboriginal concerns)

Federal departments/agencies replying: Indian and Northern Affairs Canada

Status: Completed

Petition No. 10: Federal/provincial harmonization accord

Date submitted: 22 January 1998

Petitioner(s): Canadian Environmental Law Association (CELA)

Summary: The petitioner urged the federal government, particularly the Minister of the Environment, not to sign the proposed Canada-Wide Accord on Environmental Harmonization. CELA stated that the Accord would be inconsistent with the federal government's commitment to sustainable development. It would weaken existing federal environmental roles and responsibilities and limit Canada's ability to negotiate and comply with international environmental agreements.

Issues: Other (federal/provincial co-operation)

Federal departments/agencies replying: Environment Canada

Status: Completed

Petition No. 9: Multilateral Agreement on Investment

Date submitted: 14 January 1998

Petitioner(s): Canadian Association of Physicians for the Environment (CAPE)

Summary: The now defunct Multilateral Agreement on Investment (MIA) is the subject of this petition. The petitioner was particularly concerned about the security afforded environmental, public health, and social equity protection under the agreement. Although environmental and health protection are mentioned in the agreement preamble, these subjects were not explicitly included in the agreement text. CAPE requested that the federal government clarify the terms of reference and the objectives of the MAI.

Issues: International/bilateral issues (international environmental agreements) (trade)

Federal departments/agencies replying: Department of Foreign Affairs and International Trade and Environment Canada

Status: Completed

Petition No. 8: Protecting Canadians from the effects of ozone depletion

Date submitted: 6 October 1997

Petitioner(s): Friends of the Earth

Summary: The petitioner sought information on the government's efforts to protect the health and livelihood of Canadians from the effects of ozone depletion. At the time of the petition, Friends of the Earth was carrying out an assessment of Canada's programs for meeting its international commitments under the Montreal Protocol on Ozone-Depleting Substances. The organization directed its questions to five departments. It requested specific information on budgeted commitments for research on the health and environmental impacts of increased UV radiation and for protection measures. It also asked for information on departmental spending trends during the previous five years.

Issues: Air issues (ozone depletion), human health/environmental health, and international/bilateral issues (ozone depletion)

Federal departments/agencies replying: Agriculture and Agri-Food Canada, Environment Canada, Fisheries and Oceans Canada, Health Canada, and Natural Resources Canada

Status: Completed

Petition No. 7: Divesting of salmon hatcheries in Nova Scotia

Date submitted: 4 July 1997

Petitioner(s): Queens County Fish and Game Association

Summary: The Nova Scotia organization mounting this petition addressed a series of questions to the Minister of Fisheries on the Atlantic Salmon Hatchery Divestiture Initiative. The Association argued that the divestiture policy, if implemented for hatcheries in Nova Scotia, would have disastrous consequences for Atlantic salmon stock conservation and restoration programs.

Issues: Fisheries (conservation) (other)

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 6: Canadian Mining Regulations

Date submitted: 15 April 1997

Petitioner(s): Canadian Arctic Resources Committee

Summary: The petition presents a critique of the current federal system for disposing of Crown mineral rights in the Northwest Territories (NWT) through the Canadian Mining Regulations. According to the petitioner, the regulations establish an open-access or free-entry mining regime. Therefore, all Crown lands in the NWT are open for mineral operations unless they are specifically withdrawn. The petitioner suggested that the current approach is inconsistent with sustainable development as defined in the *Auditor General Act*.

Issues: Renewable and non-renewable resources (mining) and other (federal land) (Aboriginal concerns)

Federal departments/agencies replying: Indian and Northern Affairs Canada

Status: Completed

Petition No. 5: Sour gas leaks and emissions in Alberta

Date submitted: 9 April 1997

Petitioner(s): Canadian resident

Summary: The petition raised concerns about the health effects of sour gas leaks and emissions in northwest Alberta. The petitioner was unable to resolve the problem by dealing with the responsible parties or the Alberta government and asked the federal government to get involved.

Issues: Air issues (air quality)

Federal departments/agencies replying: Natural Resources Canada

Status: Completed

Petition No. 4: Hydro connection through Yoho National Park

Date submitted: 1 April 1997

Petitioner(s): Graeme Pole

Summary: The proposed construction of an overhead power transmission line through part of Yoho National Park prompted this petition. The federal agency involved is Parks Canada (when the petition was submitted, the agency was still part of the Department of Canadian Heritage). The petitioner contended that Parks Canada violated its own operational policy, the Yoho National Park Management Plan, and federal park regulations. He was particularly critical of the environmental assessment conducted for the project.

Issues: Environment assessment and biological diversity (protected areas)

Federal departments/agencies replying: Department of Canadian Heritage

Status: Completed

Petition No. 3: Sustainable transportation and infrastructure

Date submitted: 10 March 1997

Petitioner(s): Transport 2000 Ontario Inc.

Summary: Road construction and upgrading done under the auspices of the Canada Infrastructure Works Program is the subject of this petition. The petitioner requested an examination of this program. Such an examination should consider, among other things, the environmental and sustainable development consequences of increasing the number and size of roads in Canada. The petitioner encouraged a halt to federal money for any aspect of road construction.

Issues: Other (infrastructure) and transportation

Federal departments/agencies replying: Treasury Board Secretariat

Status: Completed

Petition No. 2: Sustainable transportation

Date submitted: 6 March 1997

Petitioner(s): Rail Ways to the Future Committee (a working committee of Transport 2000 Ontario Inc.)

Summary: The petitioner requested an examination of the state of transportation in Canada. The Committee urged a modal shift to rail from road and air for as much freight and passenger traffic as possible. It also endorsed the development of Transportation Master Plans with explicit sustainability criteria.

Issues: Transportation (railways) (sustainable transportation)

Federal departments/agencies replying: Transport Canada

Status: Completed

Petition No. 1: Environmental assessment for a golf course development

Date submitted: 2 October 1996

Petitioner(s): The Ecoforestry School in the Maritimes

Summary: A golf course development in Oakhill, Nova Scotia is the subject of this petition. The Ecoforestry School was highly critical of the federal environmental assessment screening report on the project. It alleged that there were discrepancies between the information contained in the screening report and its own observations of the property. The federal government was contributing funds toward the golf course development under the Canada/Nova Scotia Infrastructure Program.

Issues: Fisheries (habitat), environmental assessment, and other (infrastructure)

Federal departments/agencies replying: Atlantic Canada Opportunities Agency

Status: Completed

Report of the
Commissioner of the Environment and Sustainable Development to the House of Commons—2002

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